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THE ARCHITECTURAL RECORD

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DETAIL OF THE LIBRARY—COLUMBIA UNIVERSITY.
116th St., New York City. McKim, Mead & White, Architects.

THE ARCHITECTURAL RECORD

VOL. XXVII. JUNE, 1910 No. 6

Architecture of American Colleges

IV.

NEW YORK CITY COLLEGES

Now that Columbia has definitely taken its place among the great universities of the country, the wonder grows that it should ever have found its place among the small colleges. This humble situation it continued to occupy long after the city of its seat had become the commercial metropolis of the United States. Before New York arrived at that primacy, it was worthy of a bigger institution of learning than it possessed. No more liberal and public spirited a body of traders ever existed than the New York merchant of the old days. They patronized institutions of learning bountifully. But, till within a comparatively recent period, they carried their patronage afar, and planted and watered at New Haven or Princeton, instead of refreshing this thirsty soil on which they lived and got their livings and their "superflux." Columbia waned while New York waxed. Even the "church colleges" far from New York got more than their share of the bounty of New York "churchmen." Now that Columbia has grown so big as an university, and so much bigger even as a college, this challenging inquiry can, happily, be pursued without invidiousness. To pursue it takes us back to the beginning of "King's College," which as the Roman inscription on the front of the actual library proudly sets forth, was "Founded in New York by Royal Charter in the reign of George II."

The first suggestion of a college in New York was doubtless that made by Lewis Morris to the Society for the Propagation of the Gospel in Foreign Parts, in the reign of Queen Anne. It was a suggestion that the Queen's Farm might probably be had for that purpose for the asking. Nothing came of the suggestion. The next year the property was granted to Trinity and became the Church Farm. The project of a college languished for half a century, and then, curiously, the same piece of land was made to subserve it. Trinity Church, under the guidance of Dr. Barclay, whose name survives in that of one New York street, as that of his predecessor Vesey in that of another, made over a site for the college, on the express condition that the President of the college should be a member of the Church of England, and also that its religious services should be selections from the liturgy of that church. October 31, 1754, was the exact date of

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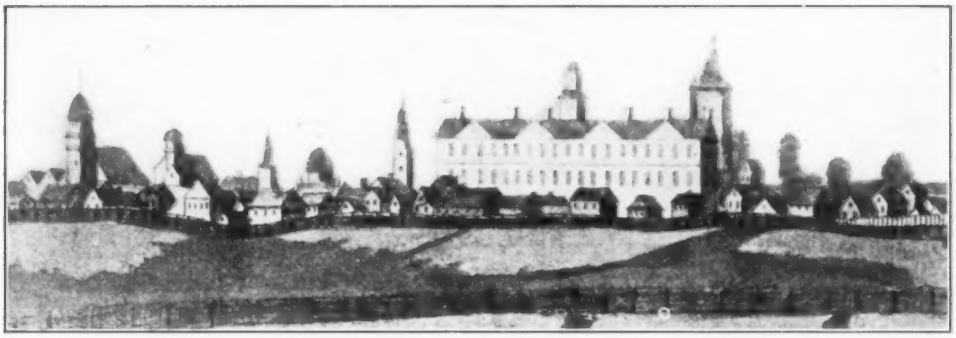
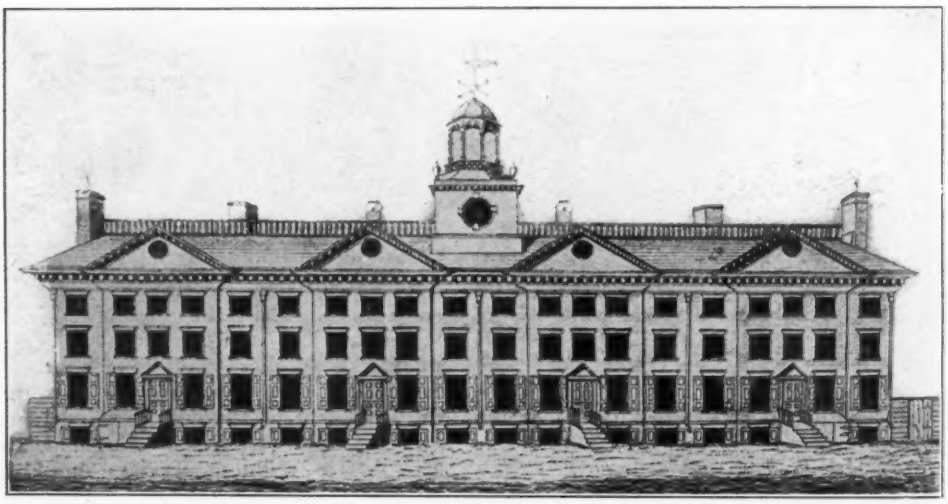


KING'S COLLEGE IN 1760.

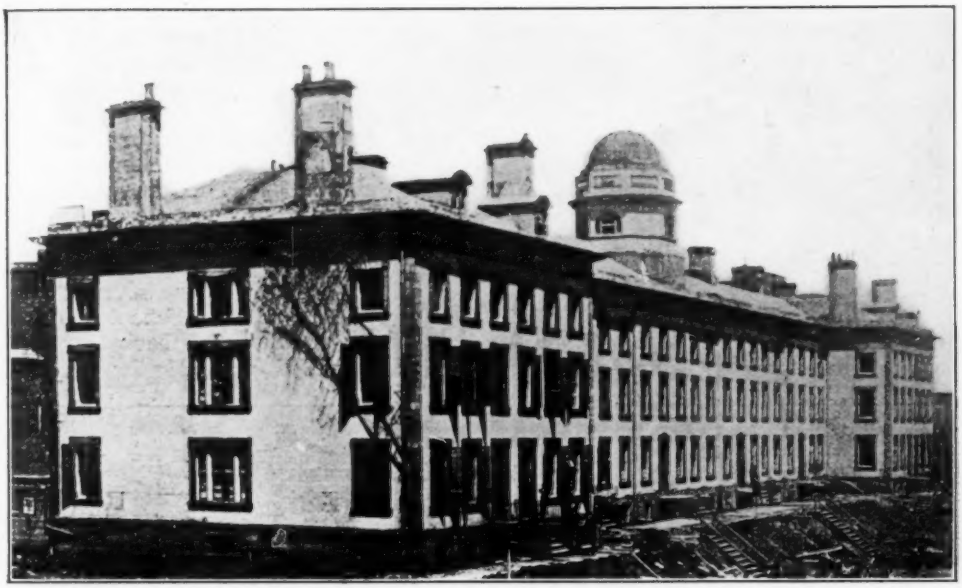
the charter by the Governor in Council, the Governor, in fact, being the Lieutenant Governor, James De Lancey. But there had already been much contention over the constitution of the proposed college, which all New York agreed ought to be founded, coming, however, to differ internecinely when the details of the foundation came into question. The story may be partly read in the official "History of Columbia University"; more fully and freely, and therefore more entertainingly in William Smith's "History."

The original site of King's College, as given by Trinity Church, a frontage of 440 feet on "Church" street, between what is now Barclay and what is now Murray, and thence westerly to the North River, is now traceable only in the name on the map and in the directory of "College Place," if, indeed, the very name survives. "The churches of other denominations," remarks Smith, "soon took the alarm, suspecting that the Episcopalian persuasion intended to engross the government of the college, and the press began daily to represent the impolicy and injustice of devoting funds raised by all sects for a common use to the dominion of one."

The original charter of King's College had appealed for support for the new institution in words possibly formular, but apparently borrowed from those of the then recent "prospectus" of Nassau Hall,



COLUMBIA COLLEGE IN 1790.



COLUMBIA COLLEGE IN 1857.

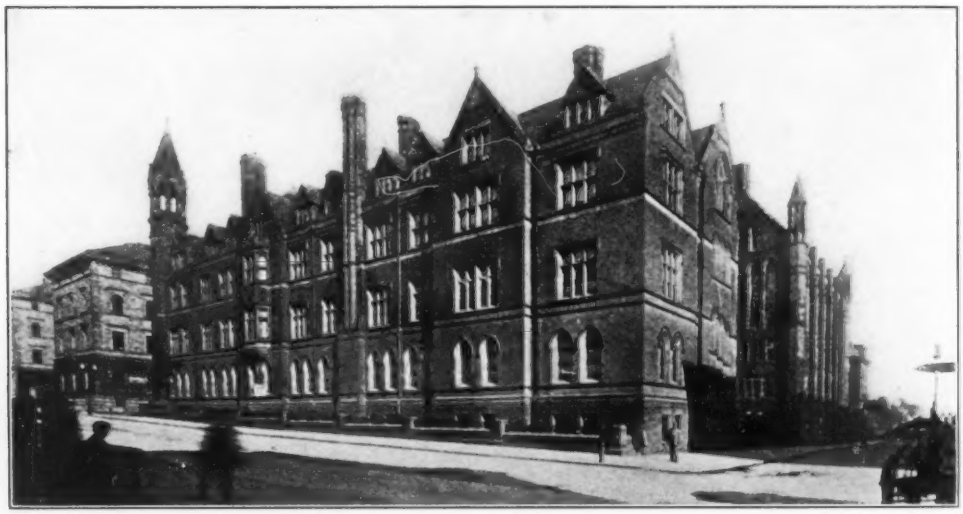
which they reproduced, upon the ground that it was instituted "for the Instruction and Education of Youth in the Liberal Arts and Sciences." It was in July, 1754, that the Rev. Dr. Johnson, who comprised in himself the entire faculty, began to give instruction, in the vestry room of Trinity. It was not until August, 1756, that the corner-stone of the college's own building was laid. It was not until 1760 that the building was so far advanced that the college could hold its commencements in it. The first reported commencement, that of 1758, was held in St. George's Chapel, the building in Beekman street which was demolished some forty years ago to make room for the "St. George Building," which perpetuates the name, and the exercises began with a procession to the chapel from the vestry room of Trinity, at Broadway and Wall Street, a considerable promenade. The new building which was to house Columbia for only three years short of a century was occupied two years later. President Myles Cooper, who succeeded Dr. Johnson, rather discreetly limits his praise to the situation of the site:

> The college is situated on a dry, gravelly soil, about one hundred and fifty yards from the bank of the Hudson River, which it overlooks; commanding, from the eminence on which it stands, a most extensive and beautiful prospect of the opposite shore and country of New Jersey, the City and Island of New York, Long Island, Staten Island, New York Bay with its islands, the Narrows, forming the mouth of the Harbor, etc., etc.; and, being totally unencumbered by any adjacent buildings, and admitting the purest circulation of air from the river and every other quarter, has the benefit of as agreeable and healthy a situation as can possibly be conceived.

We must be willing to take Dr. Cooper's word for the "prospect" of 1773, when he wrote, since we can no longer verify his word. But fancy the Arcadian time when an edifice at Park Place and Church Street was "totally unencumbered by any adjacent buildings." There are, doubtless, some oldsters who remember how the college looked before the demolition which followed so swiftly on the removal of 1857. But even they can hardly recall the time when the view from the site to the river was unobstructed, long as the lower west side lingered in its development after the lower east side.

This present article is not, of course, a history of Columbia, excepting in so far as the history is necessary to elucidate the architecture. So it is not necessary to recount the various steps by

which the struggling college, which had failed to make an adequate appeal to the public by the value to the community of its teaching, secured from the Legislature, in 1814, in answer to a rather pitiful statement of its failure, the grant of the "Botanic Garden" which had lately escheated to or been conveyed to the State, having failed to answer the intention of its projector, Dr. David Hosack. This is the tract of one hundred and sixty lots, "bounded on the North by 51st Street, on the South by Forty-seventh Street, on the East by Fifth Avenue and on the West by a line parallel with and about one hundred feet easterly of the Sixth Avenue," which has for almost a century continued to form a considerable and increasing part of the patrimony of Columbia. Naturally, when the increasing value of the old site in "College Place" made that unavailable for the situation of a college, the thoughts of the trustees tended to this acquisition, and in 1855 a special committee of the trustees, in consultation with Richard Upjohn, architect, developed plans for college buildings on the Botanic Garden property. One would like to see those plans. But they came to nothing, seeing that, a few years later, the college bought the Deaf and Dumb Asylum and the block on which it stood, block bounded by Madison and Fourth avenues and 49th and 50th streets. Thither, the next year, the college migrated, and there it stayed for forty years, until it made its flitting to Morningside. The first college building the college cannot be praised or blamed for. It was "an habitation enforced," being the old Deaf and Dumb Asylum. Such as it was, it was the only home of Columbia until, early in the seventies, beginning in 1874 with the School of Mines, and following up that beginning with "Hamilton Hall" (the Madison Avenue front), with the Library, with the fringe of buildings fronting the railroad on Fourth Avenue. Mr. Haight surrounded and screened off the preposterous old edifice with those strictly "collegiate" and very interesting buildings which nearly all of us remember, and so many of us regret, and regret with a mixture of resentment that they should have been superseded by something so very different. Only the other day one might have seen the demolishers converting the last of them, the frontage on Fourth Avenue, into *disjecta membra*, or junk.



HAMILTON HALL (1879). COLUMBIA COLLEGE.
49th St. and Madison Ave., N. Y. C. Chas. C. Haight, Architect.

Doubtless the removal to Morningside was enforced by the same considerations which had enforced the removal of forty

years before. The removal virtually coincided with the beginning of the development of a second-class college into a first-class university. Architecturally, it was marked by the complete obliteration of the architectural traditions of Columbia. The "Anglicanism" of Columbia, as we have seen, was rather hurtful to it academically in the beginning, continued, as we shall see, to be hurtful when the college was no longer new. But there was an architectural compensation for this in the fact that Anglicanism supplied precisely what had for generations been recognized as the most appropriate and attractive architecture for a place of education for English-speaking mankind. The ridge was practically unoccupied when Columbia took up its new quarters there. The elevation, though not very great, is precipitous and effective. It sufficed to keep the ridge free from the tide of commonplace building which had already begun to overflow the lowlands to the east. It offered the means of establishing a secluded and cloistral quarter, a quarter visible and obviously devoted to the things of the mind, as opposed to the satisfaction of merely physical needs, and the continuance of the merely material "struggle for life." Moreover, the ridge was already committed in this architectural direction by the adoption, just southerly of Columbia's new abode, of the design for the Cathedral of St. John the Divine, though, to be sure, this commitment was somewhat obscured by the adoption for a site almost adjoining that of the catehdral of a building for St. Luke's Hospital of a design in so alien a manner as that of French Ludovican. Still, some mode of English "collegiate" seemed to most cultivated and sensitive persons to be pretty imperatively indicated as the style of the new Columbia. To the Columbia Committee on Buildings and Grounds, *"aliter visum."* That committee rendered a report in the latter part of 1893 of which perhaps the most plausible explanation is that the committee had been dazzled by the then recent and "sudden glories" of the scenic architecture of the Chicago Fair. At any rate, the most tangible of its propositions was that the style chosen for the new Columbia should be "appropriate to the municipal character of the situation"; in other words, that it should not be an exception and an oasis in the commercial architecture of Manhattan, but should conform to that architecture. The adoption of this requirement was the end of the hope that Morningside might come to be a secluded and cloistral quarter, a "thing apart."

The pompous and expositional architecture which resulted from that unfortunate decision is known to all New Yorkers. One must not, simply because he finds it locally, historically and expressionally unsuitable, be led to denying it its own merits. My French friend may be right in maintaining that the library of Columbia is a "a library de luxe and not de books"; but even he cannot deny the impressiveness from the pompous and expositional point of view, of that decastyle Ionic portico, with the brick-paved expanse of the terraced plaza in front of it and Mr. French's colossal embodiment of "Alma Mater" in the center. It is, the whole effect, classic and grandiose. Classic and grandiose also, is the effect of the interior, with its columns of dark-green Irish marble and its surmounting classical statues over one face. So it is the most "monumental" of Mr. McKim's attempts to foist upon modern requirements that "maestoso" Greco-Roman colonnade. The most monumental, at least, in actual and durable erections, for I think it yields in effectiveness, when regarded in its true light of an academic classical study, to the reproduction by the same artist at the Chicago Fair, of the Baths of Carcalla, for the uses of an agricultural building. Of course, it yields still further when one reflects that the Chicago Building was avowedly scenic and illusive, while the New York building was ostensibly the satisfaction of very real and practical modern requirements. One would be loath to lose the library, all the same. If you can call a modern a great poet—as nobody ever calls him—for his sensitive and skillful rehandling of Latin versification to express modern notions, equally may you call a modern a great architect for his rehandling of the classic Greco-Roman architectural forms to fulfil modern requirements, and many there

be who do call him so. The library is, without question, a carefully and successfully studied performance in its own kind, and it is, moreover, carried out in a manner sumptuous, and regardless of expense. A whole quadrangle executed in the same sumptuous and regardless manner would have gone some distance towards conveying the impression that the Columbia Committee on Buildings and Grounds knew what it was talking about when it recommended the attractiveness of formula, of the disposition of forms according to conventions. It is not by plastering an archaeologist's portico against a bricklayer's front that you can get the impression of classic architecture. You really must, in homelier materials, substitute the interest of homelier and more idiomatic handling. The Columbia buildings, designed by the firm of the architect of the Library, struggle against a manifest impossibility, against a contradiction in terms. Brick

LIBRARY—COLUMBIA UNIVERSITY.
116th St., New York City. McKim, Mead & White, Architects.

"municipal classic" as the style of the university. But that contention becomes quite impossible when this central building is "conferred" with its later and accessory buildings in the same manner, and constructed, necessarily, with some regard to expense, and so in commoner materials. In such buildings the attractiveness of craftsmanship, of an idiomatic treatment of the materials employed, must necessarily come, not merely to supplement, but even to supplant, fronts simply do not become specimens of classical architecture because you plaster little porticoes against them, nor even because you erect them on Cyclopean bases of huge slabs of pink granite, with a swaggering two-foot half-round by way of base moulding, as the badge of your "style." Whatever you get, it is not, in such a case as that of Columbia, the specific expression that is looked for. The group of Columbia, in so far as it is a carrying out of the special intention, is

a failure. One might take it for a hospital, for a group of official buildings, for almost anything but what it is. You may admit that it is "municipal." You cannot possibly maintain that it is "collegiate."

The most obvious proof that Columbia, in its special architectural intention, is a failure, is the haste which the architects of the accessory and surrounding buildings have shown to get away from the "style" of the nucleal group, which was expected to impose itself on them. They have sought an expression, rather, of cloistrality and seclusion. That row to the northward, for example, comprising the buildings of the Teachers' College, is an obvious departure, so obvious that it might be called a protest. And, be it noted, these buildings, by whomsoever designed—and at least three architects were concerned in the production of them—the further they depart in treatment from the "municipal" group the more closely they approach to the apprehensible expression of their particular purpose as places of education. And as with the Teachers' College and its flanking buildings, to the northward of Columbia, even so with the buildings of Barnard to the westward. These latter are, in fact, classifiable as "classic," in contradistinction to the "Gothic" which is the manifest inspiration of the work

HAMILTON HALL—COLUMBIA UNIVERSITY.
McKim, Mead & White, Architects.

of Mr. Potter and of Messrs. Parrish and Schroeder. But the work of Messrs. Lamb and Rich, in Barnard, and delightful work it is, is of that mode of classic which is known as "Jacobean," and which is, in truth, a picturesque degeneration of the Gothic which held sway for some generations before the accession of James I. This mode of classic does doubtless enable the expression of a place of education which is a place of residence as well as of instruction, does come far nearer the ideal of a "college" than the irrelevant grandiosity of the buildings of Columbia, properly so-called. Not to do injustice to the architects of Columbia proper, one has to admit that the collegiate idea implies living on the premises, and that an institution the scheme of which foregoes dormitories and contemplates only "day scholars," can but imperfectly express that idea.

PICTURESQUE VIEW OF LIBRARY FROM UPPER WEST TERRACE. COLUMBIA UNIVERSITY.
McKim, Mead & White, Architects.

It would be by no means appreciative to pass without a word of recognition for the one building, and that belonging to the strictly Columbian nucleus of the "institutional" architectural exhibit on Morningside Heights, which shows an earnest and intelligent and most interesting effort to combine the effects of what we have called the architecture of formula with those proper to the architecture of craftsmanship. That building is, of course, St. Paul's Chapel. It is in the exterior that this edifice struggles to conform to the big Greco-Roman edifices of the foundation, and it is the exterior that is least attractive and successful. It seems to fail by the mere force of the attempt to conform. One cannot, it is true, classify this exterior even as classic. One murmurs, vaguely "Byzantine." The one badge of the formal classic left is the columnar porch, which does the building

MAPES MEMORIAL GATE—COLUMBIA UNIVERSITY (1898).
Broadway and 170th St., N. Y. City. Thomas Nash, Architect.

no good if it does not do it harm. The exterior architecture elsewhere, though always composed and adjusted in a knowing and scholarly way, owes its chief attractiveness, as strictly as the polygonal low-roofed cupola which crowns it, to the suggestion that it encloses and envelopes something better worth looking at than itself. And this one finds to be the case. The interior of the chapel has, in fact, nothing superficially in common with the common notion of a college chapel, either "classic" or Gothic. It is not reminiscent of any example of either mode, in its general forms or in its detail. Yet it is most unmistakably a church, by the disposition of its parts. And it proceeds from the ground plan which is so clearly dictated by the specific purpose of the structure to the architectural forms which are so clearly dictated by the materials and the mode of construction. There is no irrelevant introduction of architectural

MILBANK HALL, BARNARD COLLEGE.
Lamb & Rich, Architects.

forms which the artist seems to have admired in historical examples. The thing is so clearly and unmistakably made out of its own elements that there is not a detail which seems to have been "lugged in." Even the great arches that surround and abut the dome have the air of having been originally composed for the purpose they here fulfil. The result

> And hear once more in college fanes
> The storms their high-built organs make
> And thunder-music, rolling, shake
> The prophets blazoned on the panes,

and you will have to own that the "long-drawn aisle and fretted vault" which may be essential to your own notion of a "college fane," and which you may actually see, to the same accompaniment, at

ST. PAUL'S CHAPEL—COLUMBIA UNIVERSITY (1906).
Amsterdam Ave. and 116th St., N. Y. City. Howells & Stokes, Architects.

is that refreshing sense of reality of which we commonly have to mourn the absence. This interior is of one of those rare architectural successes which, being of no style, yet unmistakably have style. Sit down in it and let its "frozen music" sink into you, on the occasion of a "recital," while through another sense you take in the incidental music,

the C. C. N. Y., a mile to the northward, is no more appropriate to the purpose of a "college fane" than this system of huge piers and pendentives in frankly exposed and treated brickwork. This interior is a distinct and rare architectural success, with an air as "original," as homebred and vernacular, as that of a shingled suburban cottage.

The New York University may pretty safely be said to have been, in its origin, Columbia's "own fault." That restriction of the undergraduate body of Columbia to the sons of Episcopalians, which William Livingston foreboded, only in part took place, though, to be sure, the Presbyterians of New York continued to send their sons to Nassau Hall, and the Congregationalists to Yale. They might have continued to do that, though Columbia had been purely secular or "godless," according to the purpose attributed to the "Independent Reflector" by his opponents, and warmly disclaimed by himself. It was the curriculum of Columbia, rather than its ecclesiastical relations, which gave the first impetus to the foundation of the university. Indeed, among the agitators in 1830 for the establishment of a new college or university in New York, two were clergymen of the Protestant Episcopal Church—Dr. Wainwright, of Grace Church, and Dr. Milner, of "St. George's Chapel." But, if one may trust tradition, both these clergymen were representatives of the "Low," or "Evangelical," as against the "High," or ecclesiastical, of the two factions into which the Episcopal Church had by that time become clearly divided.

In 1830, New York City had attained a population of 197,112. Thanks to the exploitation, by means of the Erie Canal, of its clear natural advantages, it had become the unquestioned "commercial emporium," eclipsing all its rival Atlantic ports, to the southward or the northward. There was a great and most creditable stirring, in these parts, toward a cultivation of the things of the mind, concurrent with the advance of the new metropolis in material things. That was the exact year in which Coloned Henry Rutgers gained the distinction of having "Queen's College," the Dutch Reformed Seminary over in New Brunswick, named after him. That was equally the year in which "Mr. Sherred," at the moderate cost of presenting an endowment of $70,000 to "the Episcopal Seminary in Greenwich Village," insured that, two generations later, the initial building of the new General Theological Seminary in Chelsea Square should be called after his name. But Columbia, secure in its endowment of lands increasing in value by the "unearned increment" of increase in the population and the prosperity of the town, did nothing to take advantage of the new opportunities and forced those who appreciated the new opportunities into a position of antagonism to itself. It was perfectly in vain for the promoters of the new university to disclaim, as they kept disclaiming, any antagonism to Columbia. It

St. Paul's Chapel, Columbia University (1906).
Howells & Stokes, Architects.

Earl Hall—Columbia University.
McKim, Mead & White, Architects.

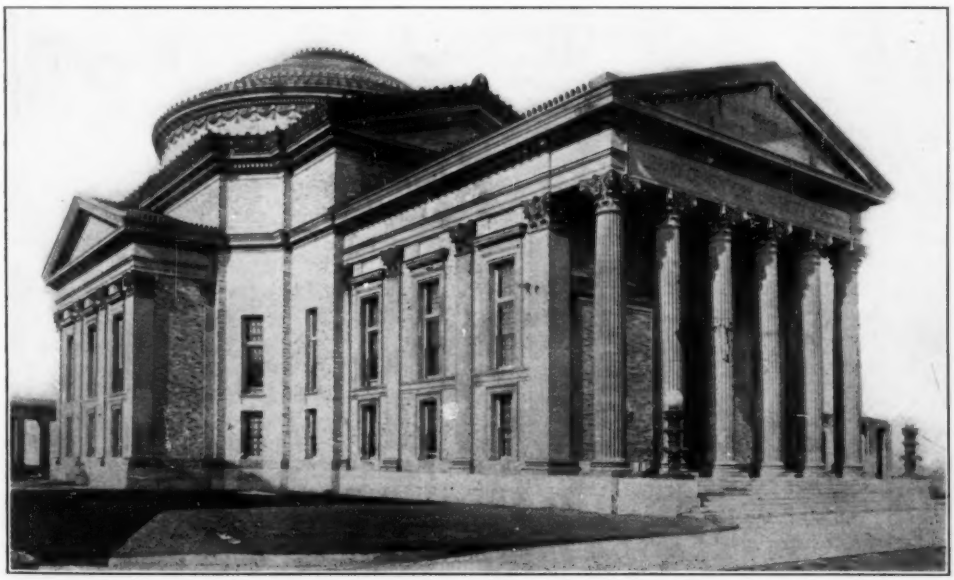
HALL OF FAME AND LIBRARY—NEW YORK UNIVERSITY.
University Heights, N. Y. City. McKim, Mead & White, Architects.

was so entirely manifest, on the face of things, that if Columbia had done its duty by New York, there would be no need of any other institution for the higher education. That there was no sectarian or anti-sectarian bias in the foundation of the new university is sufficiently evinced by the letter of an angry correspondent of the "Evening Post," in this year 1830, complaining that the Unitarian denomination had not been "recognized" in the composition of the "council" of the new institution. But the agitators were too wary to put their agitation on sectarian grounds. While deprecating the sectarian feeling by which they were yet so manifestly inspired, and while deprecating also the opposition to Columbia, which so manifestly animated their efforts, they proceeded to point out that Columbia had not served the community. They did not scruple to carry their complaints into detail. They resolved "that it is highly desirable and expedient to establish, in the city of New York, a University on a liberal foundation, which shall correspond with the spirit and wants of our country, which shall be commensurate with our great and growing population, and which shall enlarge the opportunities for education for such youth as shall be found qualified and inclined to improve them." "Innuendo," necessarily, that Columbia did not fill the bill. And the innuendo the agitators proceed to make explicit. Columbia "does not meet the literary wants of the city. It is decidedly characterized as a preparatory school for the learned professions. It bars from its privileges all who will not devote a portion, and a very large portion, too, of their attention to Latin and Greek, whatever may be their future intentions in life." "Useful knowledge" is imparted "only in the last two years of the course." Columbia is "only for professional men." The foundation of the university was necessarily an indictment of the pre-existing institution. The creation of the New York University, "on a liberal and extensive foundation," was, in fact, a provision, essentially, and in addition to the various sectarian impulses which were, by Columbia's fault, denied satisfaction in Columbia, for the accommodation of the class which, unless the college slang has been altered since my time, is known as "militiamen," in increased facilities for the attainment of the degree of "B.S.," even at the expense of the existing facilities for the degree of "B.A." Alas! it is a very obsolete controversy now. Such has been the progress of "electivism" that any expert may safely be defied to tell what either of these mystic concatenations of letters of the alphabet stands for in this present

year of grace. It was, indeed, suggested in 1830 that the old college and the new university "might by some happy arrangement be made to coalesce." But there was not enough good sense or good feeling on either side to make this suggestion effective.

This episode, though happily a digression, has nothing directly to do with college architecture. The new "Dissenting Academy" did not aspire for some years to a habitation of its own. Its first habitation, again, "an habitation enforced," was "Clinton Hall," then at the corner of Nassau and Beekman, though afterwards removed to Astor Place, where the new university began to administer its instructions in 1832. It was not until July of the following year that the cornerstone was laid of the university building on the east side of Washington Square, which to New Yorkers of any but the most recent standing is recalled by the name of "The University."

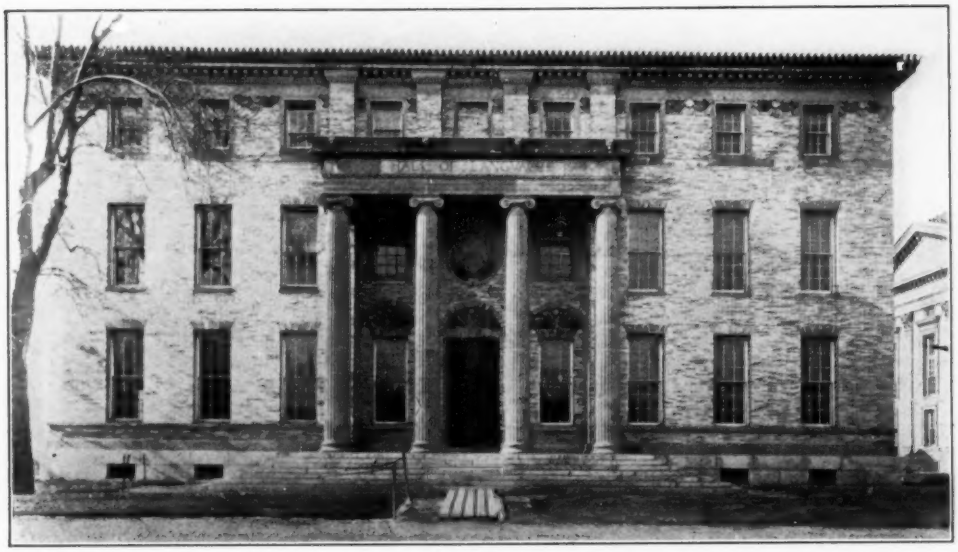
Of this edifice it is saying too much, perhaps, to say that it recalls, in their fulness, the collegiate buildings of Oxford and Cambridge, its prototype. It is certainly saying too little to say that it effaced and extinguished the architectural pretensions of anything that Columbia had built up to that time, or was to build for a generation later. Alexander J. Davis was the architect, and he was lucky enough to get his design carried out in a seemly and honest monochrome of gray stone, which made the building, even up to the time of its demolition in obedience to an imperious commercial necessity, a true architectural oasis in the desert of New York, such an oasis as we have been blaming Columbia for not establishing on the unoccupied plateau of Morningside Heights. The building became, by dint of its architectural quality, combined with the aloofness of its situation, the center of the intellectual activities of the city, of the uncommercial manifestations of the life of New York. What there was of romance in those old prosaic New York days took to the building and clung to it like ivy. Moreover, the building exactly suited the old—wordly and oasal character which the Washington Square it fronted so long retained, and even today, in part, it retains. It would be diffi-



LIBRARY—NEW YORK UNIVERSITY (1899).
McKim, Mead & White, Architects.

cult to name a building the demolition of which, in accordance with the demands of "progress," inflicted more sentimental distress upon sentimentally sensitive New Yorkers.

Quite true, they have their compensations in the buildings of "University Heights," buildings which are by no means so well known as they deserve to be, and which remain comparatively unknown by very dint of the altitude and the detachment which make the site so highly eligible for an institution of learning. That western ridge of Manhattan Island, with the branch of it which extends northward into the Bronx, seems, in fact, reserved by nature for intellectual and spiritual uses. The ridge begins to crop out at the lower end of that "Riverside Drive" which was so providently reserved from common uses half a century ago; uses which it is in part fulfilling and in part, thanks to our unrestrained individualism, so lamentably failing to fulfil. At Morningside it has risen to a respectable and impressive altitude above the plain to the eastward or the slope to the westward. Morningside was also reserved by the wisdom of our ancestors as a peculiar and distinct quarter, and its topography indicated it as an "institutional" quarter, for cathedrals and hospitals and colleges. The indication was observed by those who acquired the site of Columbia, if not by those who "regularly laid it out." It is this peculiar character which makes so irritating the irrelevancies of the Columbian committee about the "municipal character of the site." As we have been pointing out, the successes of the architects of Morningside have been pretty strictly in proportion as they have ignored the municipal character of the site and insisted rather on its cloistral character. Undoubtedly that way of regarding the problem has very much to do with the success of the College of the City of New York, of which the site has the picturesque advantage over that of Columbia in that it overlooks the eastward plain of Harlem Flats from the very edge of the beetling cliff, instead of from the plateau behind it. But even more commanding than this is the new site of the university. Nothing hereabouts is so boldly picturesque as the valley, here almost a canyon, of the estuary we call the Harlem "River," the frith which here runs through a ravine, and across which the buildings on the summits confront each other at an almost equal height, with every advantage for the exhibition of whatever architectural attractiveness they possess. It is a pity that this is so little. It is really a municipal concern that this reach of river at Fort George should be bordered by buildings worthy of it. The Washington Bridge, which spans it, is undoubtedly worthy, though the bridge is, unfortunately, out of sight from the University Heights. There is much to impress one with the works of nature as seen from the Heights, even if the evidences of man's work is lacking. And so, indeed, are the buildings of the university worthy of their admirable sight and setting. They are, of course, "classic." But classic is a word of multitude, and, in spite of the porticoes and the applied orders, and the saucer cupola, there is as much in the yellow brick and gray stone of Stanford White's masonry at University Heights as there is nothing in the Greco-Roman of his partner's on Morningside to recall the free and vernacular use of classic forms in Georgian and Colonial work. The peristylar colonnade—only it is, in fact, a "pierade"—of the Hall of Fame, with the spreading dome above, dominates the bluff with great effectiveness and seems very appositely to "belong." When the counterpart of the Hall of Languages comes to be built on the other wing of the peristyle, the effect from below will be uniquely impressive. The interior of the principal building, from the chapel in the basement to the library under the dome, is equally effective in its way. The campus front, with its portico, is equally in keeping, and so are the two subordinate building of the same authorship. The Gould Dormitory and the Hall of Languages, with their engaged orders, carry out the same notion of a homely and vernacular rendering of a current style. For some reason, perhaps precisely because the character of the site is so distinctly not "municipal," these buildings are not "astylar," but show the



HALL OF LANGUAGES—NEW YORK UNIVERSITY.
McKim, Mead & White, Architects.

orders. By the homogeneousness of material and treatment between the principal building and its dependencies, these buildings really carry the "collegiate" connotation which the subordinate buildings of Columbia so lack. They are not only "institutional," but of the peculiar institution to which they, in fact, belong. When the campus comes to be built up with buildings as well designed as these pioneers, there will hardly be a more exemplary group of college buildings in the country in their own style and kind.

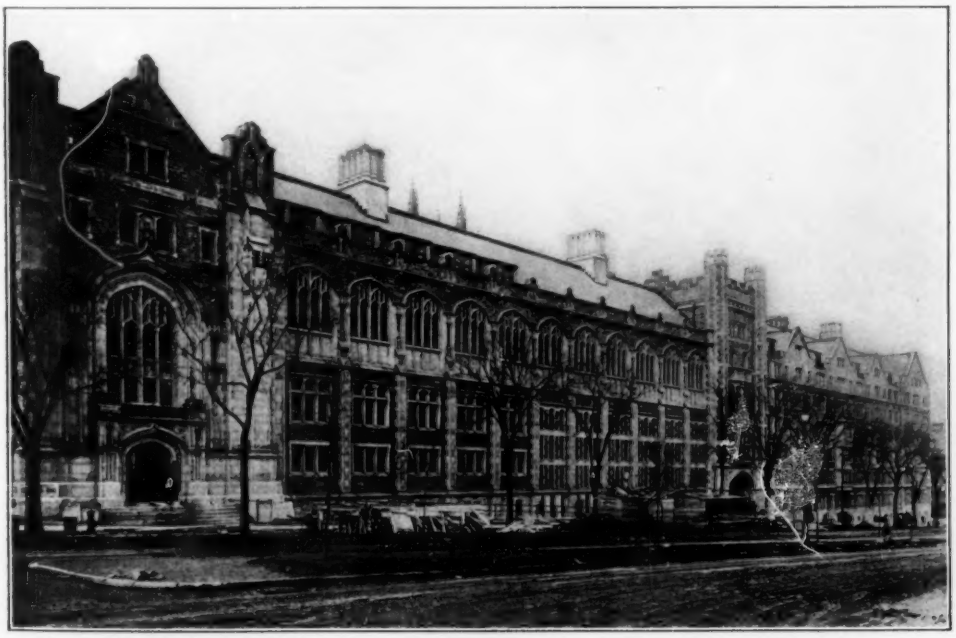
To say this, all the same, is by no means the same as saying that this is the most eligible mode of building for its purpose. Most of the buildings which immediately surround the new Columbia defer more or less to the style of the nucleal edifices. The new buildings of the Union Theological Seminary do not come into the general view of Columbia, though they are of the vicinage.

When the doom was decided, in the interest of "progress," of the picturesque buildings of the Union Theological Seminary, which made so grateful an oasis of a block-front at Park Avenue and Seventieth St., lovers of architecture refused to be comforted, foreboding that they would get nothing to look at in its stead that would be so good. Now they are reassured, having in the new buildings at Broadway and 120th Street received something even better worth looking at, being equally artistic and much more extensive. For here is a double block front, the suppressed street, closed to general traffic, being indicated by a towered gateway at the center. Four hundred and sixty feet one may take the frontage to be, including the suppressed street, and such a frontage lengthwise of a New York avenue offers an unusual architectural opportunity. Happily, also, the transverse blocks are so narrowed at this point that the site suggests or imposes a quadrangle entirely enclosed but surrounding a court which is seemly and ample, but no more, for the purposes of a court, assuring light and air to the inmates on all four sides. It will be agreed that the architectural opportunity has been admirably utilized. "The municipal character of the site" is recognized, not by making the architecture uncharacteristic, for it remains unmistakably collegiate. It has been recognized by building higher than the architects would have liked to go, we may assume, if expense, in the costliness of the land, had

been no object. The architects of Princeton have had the greatest luck in this respect of any of the recent designers of colleges. They have been permitted, by the expanse of the campus, to limit themselves to two stories of actual wall in their dormitories, whereas Mr. Haight, in the "Sheff" buildings of Yale, has been compelled to "recognize the municipal character" of New Haven by adding two more, and Messrs. Allen and Collens conformed to the municipal character of upper Manhattan by a superposition of still two more, for the court side of their buildings shows six habitable floors, though one of them is in the basement and one in the roof. The disposition necessarily lacks something of the cloistral character. A main drawback to it is that it becomes impossible to signalize the superior parts of your design by superior altitude, a misfortune which, in the old seminary in Park Avenue, resulted in the overtopping of the chapel, the central and most commanding member of the group, by the dormitories which rose behind it. It has not been so bad in these succeeding buildings. The chapel, by dint of its steep roof and its tower, manages to assert itself according to the importance of its function. In the material, though the contrast of the light tint of the wrought work and the intractable rock of the wall field is by no means so staring as in the C. C. N. Y., it is striking enough to make one wish that the colors could have been transposed. The architecture suffers also, no doubt, from the enforced attenuation of the supports of the Broadway front, an attenuation so extreme that the photograph even suggests, though untruly, a metallic structure for the lower walls, and has a worse effect in giving the "clerestory," the library, one infers, a greater apparent solidity than that of its supporting substructure. These defects the architects have endeavored, and with success, to mitigate by enclosing the whole light structure of the curtain walls between features of unquestionable massiveness and solidity, the central tower and the terminal pavilion. The device has its success. An angle pavilion like this at the north end of the Broadway front, a terminal feature of this kind, buttressed and gabled, but not towered, has no precedent in collegiate architecture that I know of. But what of that?

NEW YORK UNIVERSITY, GOULD HALL (DORMITORY).
McKim, Mead & White, Architects.

COURT—NEW UNION THEOLOGICAL SEMINARY (1910).
Broadway, Claremont Ave.; 120th-122d Sts., N. Y. City. Allen & Collens, Architects.



BROADWAY FRONT—NEW UNION THEOLOGICAL SEMINARY (1910).
Broadway, Claremont Ave., 120th-122d Sts., N. Y. C. Allen & Collens, Architects.

There are nine and sixty ways of constructing
tribal lays,
And every single one of them is right!

The feature is needed here, to "spike the wall down," as Richardson used to say, and it amply justifies itself not only by the completeness with which it fulfils that function, but by the power and grace of its own design. Our street architecture has nothing better to show in this kind, and very few things so good. And the design throughout shows an intelligent, subtle and sensitive consideration of the problem in hand, and at every point finds an interesting, though not always a successful, solution. It is not only one of the best of our collegiate buildings, but one of the notable architectural ornaments of New York.

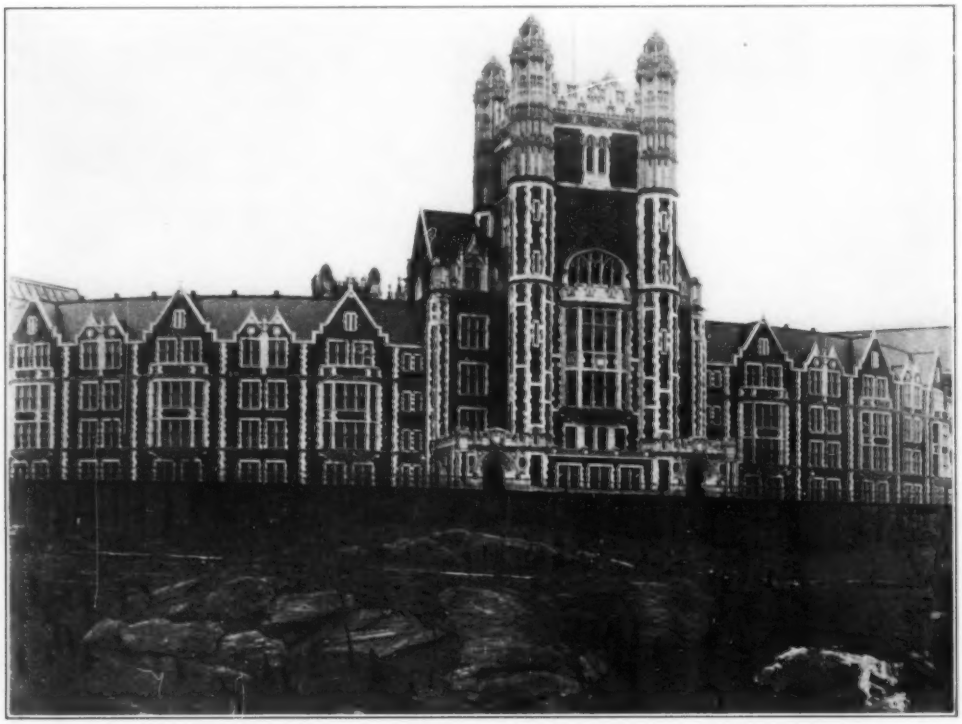
CORNER DETAIL—NEW UNION THEOLOGICAL SEMINARY (1910).
Broadway and 119th St., N. Y. City. Allen & Collens, Architects.

The College of the City of New York had quite a different beginning from either of the other scholastic institutions we have been discussing. In its first stages, sixty years ago, it did not even assume the name of a college. Under the name of the Free Academy, it belonged to the class of "academies" in-

termediate between the public schools and the colleges. During the early part of the nineteenth century, this intermediate class of educational institutions attracted a degree of regard from the legislature and the regents of the State University, which it has long since lost. The more, apparently, is the pity. This particular "academy" was projected as the roof and crown of the public school system, and an energetic and capable professor from a languishing "church college" up the state was brought down to put it into operation, which he did with great effect. Naturally, it was objected to by certain political purists, as giving to some children the facilities of a higher education at the public expense which it was not practicable to furnish to all children. But criticism on this score has now entirely died out. The latest exponent of it was probably Charles A. Dana, who used regularly to fulminate in the Sun against the C. C. N. Y. as an unconstitutional and undemocratic institution. The criticism has died out, on account of the extent to which the institution has been justified

CHAPEL—NEW UNION THEOLOGICAL SEMINARY (1910).
Broadway, Claremont Ave., 120th-122d Sts., N. Y. City. Allen & Collens, Architects.

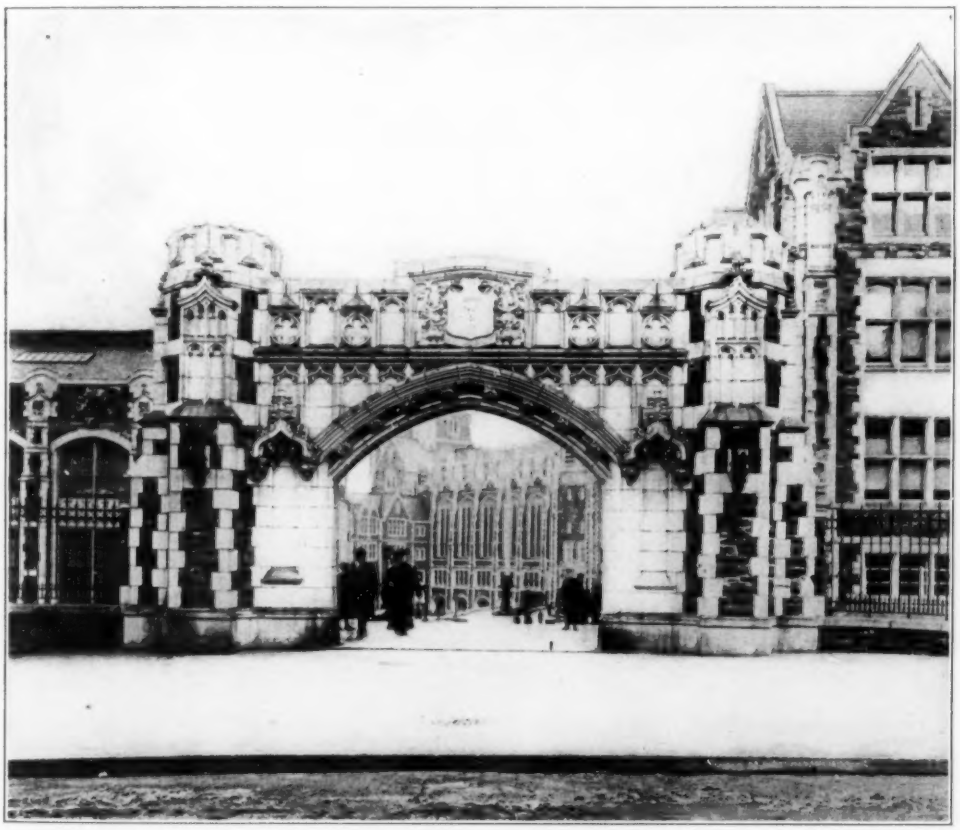
by its children and on account of the enormous incentive the existence of the institution furnishes to zealous students in the public schools. At any rate, it is quite as firmly rooted now as any of its collegiate predecessors, and possesses the advantage over them that it can enforce a much more Spartan discipline, being dependent on no tuition fees, and, indeed, being interested in weeding out rather than in increasing the undergraduate body. Its first home must be now fully sixty years of age, and is still, though perhaps rather precariously, standing in East Twenty-third street.



FRONT OF MAIN BUILDING—COLLEGE OF THE CITY OF NEW YORK (1909).
Amsterdam and Convent Aves., 137th-139th Sts., N. Y. C. George B. Post & Sons, Architects.

It is the work of James Renwick, and it exhibits, as distinctly as the preceding edifices of the University in Washington Square, the belief that collegiate is the proper style of architecture for a college. It is, in its general conception, highly creditable to the architect, far more creditable than the Normal College, nearly contemporary with it. In fact, the old building of the Free Academy needs only more monumental material and greater refinement of detail to be admitted as a very worthy specimen of its species. The notion of establishing the college hall, or assembly room, in which was also an entirely undenominational and even creedless "chapel," in a clerestory was a happy thought which would of itself have given distinction to the single building in which, at the time of its erection, the college was expected to be comprised. That it should so far have outgrown this limitation as to grow up to the group of buildings on the heights of Convent Avenue, is monumental evidence of the public usefulness of the institution and of the public appreciation of the same. Neither is there any question of the brilliant architectural success of the new buildings themselves. I have so recently

(March, 1907), had the privilege of celebrating the architecture in detail in these pages that I am the better content to dismiss it summarily now. As we have seen, the site is about the luckiest for such an institution that the island of Manhattan affords, almost the luckiest that the whole "ridgy back" of the West Side of upper Manhattan and lower

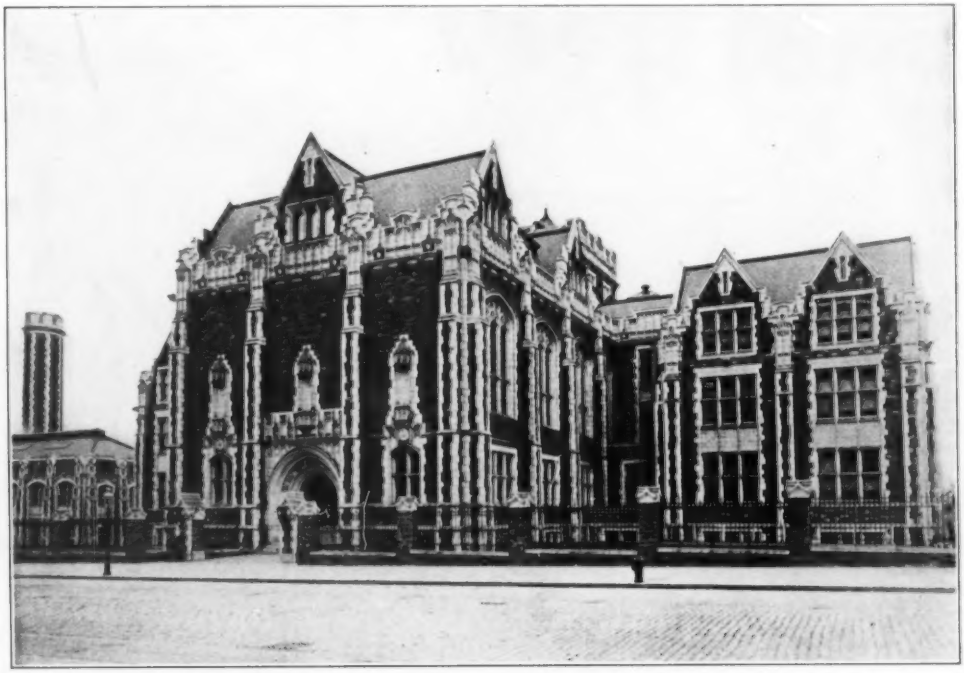


AMSTERDAM AVENUE GATE— COLLEGE OF THE CITY OF NEW YORK (1909).
Amsterdam and Convent Aves., 137th-139th Sts., N. Y. City. Geo. B. Post & Sons, Architects.

Bronx affords, unless there be some "saddle back" in the chain which affords a downward view on both sides. Not quite so lucky as that of the University, with the gleam of the "river" underneath and the confronting height opposite, but about all that can be had from one side of the spinal column of the island. For you look off directly eastward over the populous plain of the Harlem Flats, at a distance where the meanness of its architecture in detail is no longer apprehensible, and you are at liberty to be impressed with the extent and the intensity of its populousness. The view recalls Carlyle's description in prose of that of London from Highgate Hill, or Shelley's in verse of the lookout from the Euganean Hills. And how the projection of the "building line" to the very brink of the precipitous cliff enhances the effectiveness of the view both of the plain from above and of the buildings from below.

The one main defect of the architecture is so obvious to everybody and has been so much insisted on by everybody that there is little use in more than merely mentioning it now. The combi-

nation of materials comes near that crucial illustration of Richardson's of a building of black granite with trimmings of white marble. For the rough rock of the wall-surfaces is as black as stone can be quarried, the white of the wrought work as white as terra cotta can be "burned." One was never so thankful to mere grime as he is here to the sooty stain that has begun to overspread the snowy terra cotta since it was put in place. As George Eliot somewhere says, "some sorts of dirt serve to clarify," and the design is "clarified" hereby. Some seasons of the London "blacks" would do these buildings great good. It would not be a bad notion for the city to permit the City College to burn soft coal for a season until the architecture has been properly smoked. It is to be hoped that no vandal will propose the cleaning of this terra cotta so soon as it begins to take "the tone of time." Of late there have been added adornments, in the way of the gates, which are admirably in keeping with the design of the buildings and in furtherance of their effectiveness. While the designer as evidently knew as he evidently loved his Gothic, he is as far as possible from being a purist. His work shows, among other things, how architectural purity can be attained without architectural purism. Indeed, had he been a purist, he would not have been the architect for this job. He would have striven to find historical Gothic forms within which could be constrained such requirements, unknown to the builders of the mediaeval monasteries and colleges, as those of the Chemical Building and the building of the Mechanical Arts, and would have infallibly spoiled those buildings by failing to find them. In truth, nothing about the group is more happy and admirable than the manner in which the precedented and the unprecedented in their architecture coalesce and harmonize. One can perhaps perceive a longing on the part of the archi-



TOWNSEND HARRIS HALL—COLLEGE OF THE CITY OF NEW YORK (1909).
Amsterdam and Convent Aves., 137th-139th Sts., N. Y. City. George B. Post & Sons, Architects.

tect for more or larger solids and less or smaller voids than would have satisfied his clients, who evidently importuned him with the prayer for light, and one rejoices at his circumvention of them in the main front of the sub-freshman building, in the erection of a decorated wall absolutely without any apertures whatever excepting the doorway and its two inconspicuous flanking windows. The Gothic purist would no doubt "stare and gasp" at finding the developed apse of a Gothic church suffering a sea-change into a six-story office building. But so long as it serves the purposes of the office building, and

CAMPUS LOOKING TOWARDS AMSTERDAM AVE.—Amsterdam and Convent Aves., 137th-139th Sts., N. Y. City.

COLLEGE OF THE CITY OF NEW YORK (1909).
George B. Post & Sons, Architects.

at the same time without proclamation or suggestion of any untruth, adds a richness and a grace to the building to which it is adjoined, one does not feel moved to join the purist. In one point, indeed, one wishes the architect had been more frankly modern, and that is in the interior of the "Assembly Hall," as the apartment, which can hardly be called a chapel, seeing it is erected for the use not only of all shades of professing Christians, but also of "Turks, Jews, infidels and heretics," is cautiously and diplomatically designated. This is much more conventionally the "college fane" than that of the chapel of Columbia, and the "thunder music" of the high-built organ "rolls" in it with equal though not with greater effect. The change one might wish for in the direction of modernity would have been the substitution of metal for an imitation of masonry in the piers that carry the clerestory of the interior. The apartment itself, with its magnitude of 150x100x70, is approached in dimensions by very few of our church interiors, and it is clear that these unusual dimensions are required to accommodate an unusual "congregation." Unobstruction of the floor-space is a primary requirement. It would have been better fulfilled by a structure of metal, and there would have been a great gain in frankness, in the sense of reality, and also, if the architect had wrought as successfully here as he has done elsewhere, in architectural grace. But, indeed, it were ungrateful to cavil with what has given us so much pleasure. The artistic success of these buildings is not only undisputed, but triumphant. And it may be added that, by reason of the heterogeneousness of the undergraduate body, there is no college to which the education, daily and unconsciously imparted, of inspiring architecture is more important.

A much more conventional collegiate Gothic than that of the C. C. N. Y. is that of the General Theological Seminary down in Chelsea Square. This in-

stitution has the advantage one would desire for a place of education, being as secluded as any site on Manhattan Island could be. It would be already, without its buildings, an oasis, or more properly a "backwater." Hardly anybody, it is safe to say, so much as sees it without going to see it. Originally reserved from ordinary settlement by a well advised owner who desired to bring his farm land into urban occupation by establishing an attractive little park, it has continued ever since to subserve that purpose. It is true that the riparian owners on the North side may be disposed to grumble at having only brick walls to look at, even brick walls so good-looking as these, instead of the grass and trees the brick walls shut out from view. But on the South side the "quad" pleasantly frames the little park, and gives the dwellers who have it in constant view, something better worth looking at than they had before. The original stone buildings erected for the use of the seminary, one in the twenties and one in the forties of the last century, recognized the collegiate and the seminarian and the sectarian character of the institution. They were two in number, one a lecture hall and one a dormitory, for *quandoque bonus dormitat theologicus*, and they were in what the untutored builder fondly fancied to be English Gothic. The beginning of the more informed and sympathetic rendering of that mode with which Mr. Haight has been supplementing or superseding these ancient but hardly venerable structures dates back almost thirty years, to the erection of Sherred Hall in 1883. One would be at a loss to name, within the "municipal" limits of New York another so complete exposition of a collegiate "plant" with its lodgings, its library, its refectory, its chapel, its entire scholastic equipment. One would be almost equally at a loss to name another in which the chosen style has been so idiomatically and vernacularly applied. The express renunciation of sumptuosity of material, in favor of rough brick, with sparing wrought work in brownstone was doubtless necessitated by economy. But the choice would in any case have been fortunate. It promotes the homeliness and

AMSTERDAM AVENUE ENTRANCE—COLLEGE OF THE CITY OF NEW YORK (1909).
Amsterdam and Convent Aves., 137th-139th Sts., N. Y. City. George B. Post & Sons, Architects.

habitableness of the buildings and gives additional relief and value to the sparing carved ornament in which the architect found himself at liberty to indulge. With more space at command, it were a pleasant task to go through the work

proper architectural style for American colleges. The confused impression made by the architecture of the new Columbia, with the successfully pompous and grandiose Library in incomplete relations with the less successful quest for

EAST QUADRANGLE—GENERAL THEOLOGICAL SEMINARY (1884).
9th and 10th Aves., 20th-21st Sts., N. Y. City. Chas. C. Haight, Architect.

in detail, instead of having to refer to the illustrations, which also one would like to see on a more extensive scale than is here practicable. But it is hard to see how, after a survey of even the illustrations to which we are restricted, the surveyor can be in doubt as to the

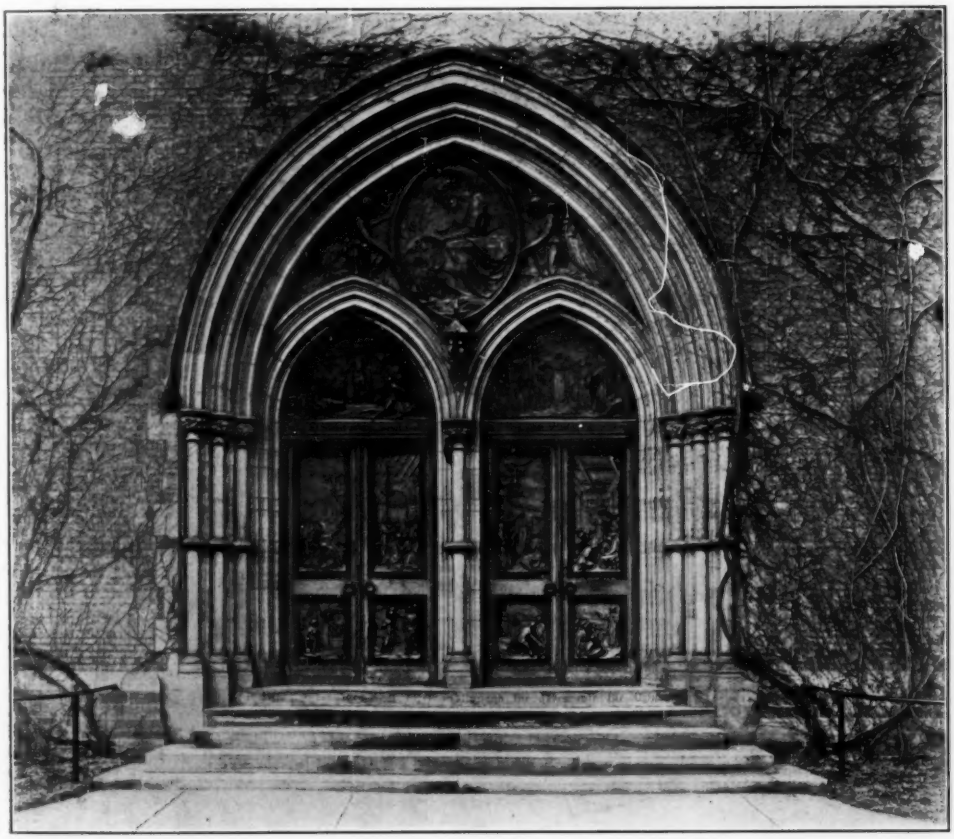
those qualities in the accessory buildings, even the more single and successful impression made by the architecture of the new University of New York, with its unequalled site, is "from the purpose" of collegiate architecture when compared with the impression made by

GENERAL THEOLOGICAL SEMINARY (1884).
9th and 10th Aves., 20th-21st Sts., N. Y. City. Chas. C. Haight, Architect.

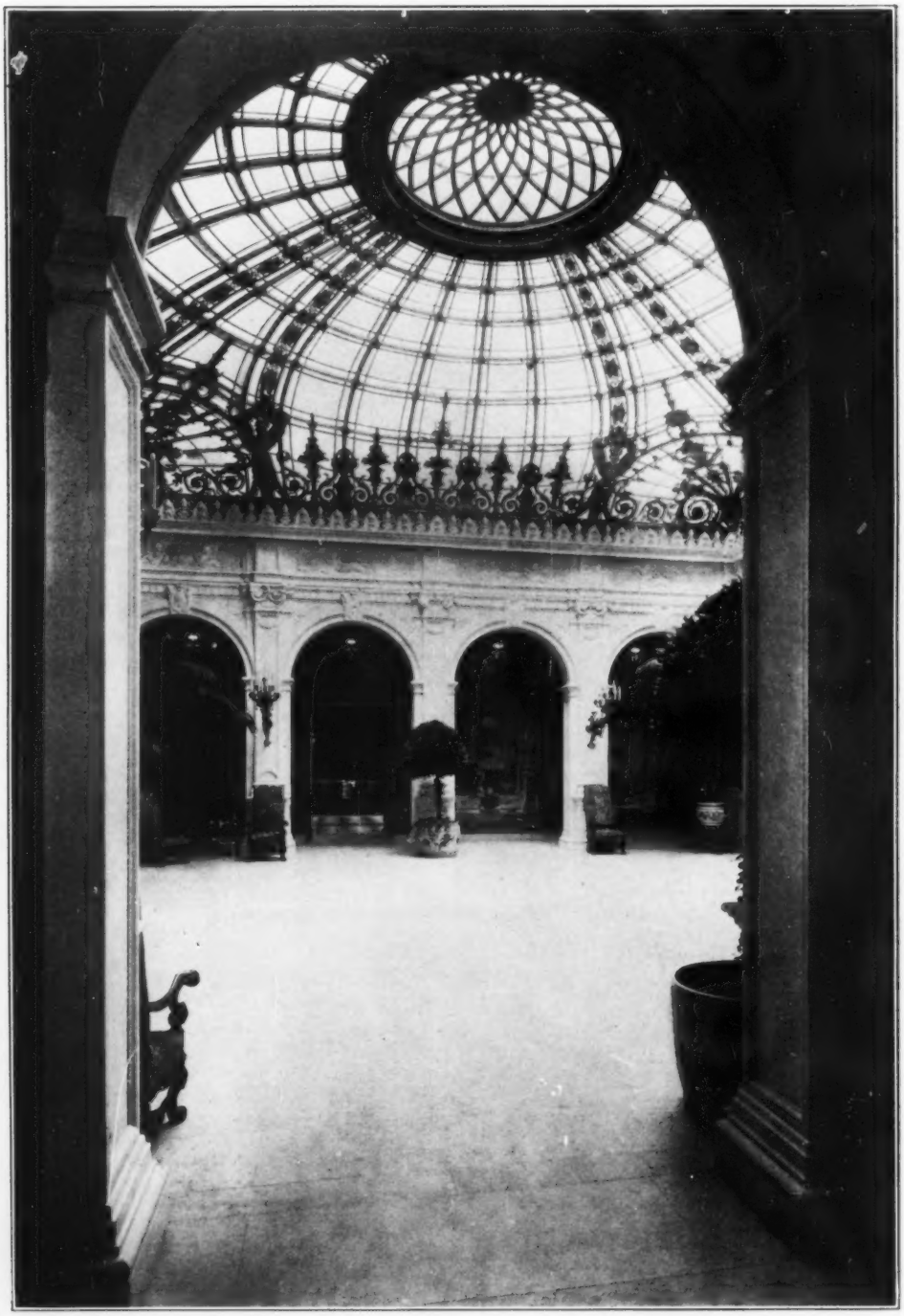
HOFFMAN HALL—GENERAL THEOLOGICAL SEMINARY (1902).
9th and 10th Aves., 20th-21st Sts., N. Y. C. Chas. C. Haight, Architect.

the College of the City of New York, the Union Theological Seminary, or the General Theological Seminary. Great as is the diversity these works exhibit among themselves, great the variety of expression which the style they have in common enables and invites, the impression of each group of buildings is single and definite, the expression of each group unmistakably "collegiate."

Montgomery Schuyler.



DOORWAY OF MEMORIAL CHAPEL—GENERAL THEOLOGICAL SEMINARY (1887).
Chas. C. Haight, Architect.
J. Massey Rhind, Sculptor.



ENCLOSED COURT—RESIDENCE OF COL. JOHN JACOB ASTOR.
5th Ave. and 65th St., New York City. Carrère & Hastings, Architects.

The Residence of Col. John Jacob Astor

(Photos by Floyd Baker)

The interior of the residence of Col. John Jacob Astor, which is illustrated herewith, has a peculiar architectural interest from several different points of view. It is interesting, in the first place, because of the example it affords of a modern metropolitan dwelling of the most expensive class, the design of which has been confided to architects of the highest standing. But it is still more interesting because of the transformation it has recently undergone. It is one of the few modern American residences of this class which has a history. The illustrations, published herewith, show a composite result obtained under the direction of two different architects, and embodying in a significant manner the different standards which prevailed in designing this type of house over twenty years ago, from those which prevail today. In order to understand the transformation which the house has undergone, both in plan and design, the reader should follow with some care the following description of the process.

The original house, which was built late in the nineties, occupies a plot of about 100 x 100 ft. at the corner of 65th Street and Fifth Avenue. Its plan was determined by the fact that, although provided with only a single entrance, it was intended for the occupation of two separate families. The northerly half was occupied by the late Mrs. William Astor, Col. Astor's mother, and the southerly half by Col. Astor himself. The ground floor, consequently, was cut up into a double set of apartments, each containing its equipment of living and dining rooms. On the other hand, there were certain rooms, such as the art gallery, which belonged, as it were, to the whole house and not specifically to either half of it. Both the plan and design of this original building, the architect of which was the late Richard Morris Hunt, was dominated by a huge monumental staircase, which directly faced the entrance hall, and which occupied a great deal of space. This staircase belonged, like the art gallery, to the house as a whole, rather than to the two separate sets of apartments into which the use of the house was divided.

When Mrs. Astor died, Col. Astor naturally wished to have its plan adapted to the occupancy of one rather than two families; and the task of making the change was confided to Messrs. Carrère & Hastings. They were not commissioned, however, to do away entirely with the old plan. On the contrary, the idea was that only such changes should be made as were indispensable to the adaptation of the house to its new function, including, of course, such changes in the design as necessarily accompanied the changes in the plan. The new plan became, consequently, something of a compromise and included certain dispositions of the available space, which would not have been adopted in case a wholly new house of the same dimensions and requirements was to be built.

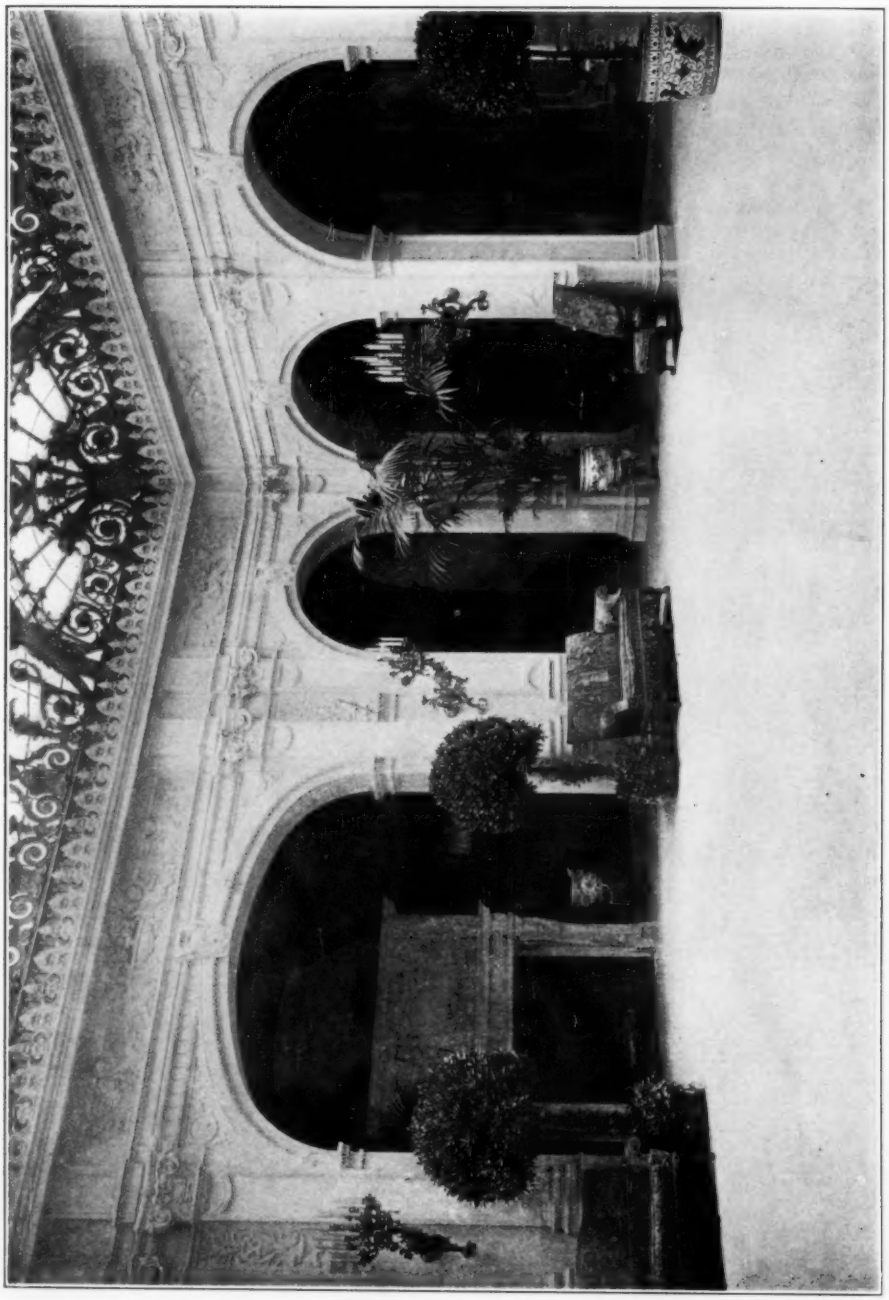
The fundamental change in the old plan which the new architects decided to make was the elimination of the monumental staircase. This staircase, while an effective architectural feature, served no practical purpose commensurate in importance with its cost in space. The rooms on the upper floor, to which it rose, were not used for entertainment. They were the private apartments of the occupants of the house; and it did not seem worth while to sacrifice so much room to what was essentially a subordinate function in the economy of the building. Moreover, this staircase embarrassed the architects in laying out the ground floor so that it would be best adapted to its essential purpose. What the owner needed on the ground floor was a series of apartments which could be conveniently used for entertainments of all kinds, both large and small; and this staircase made it difficult, if not im-

possible, to provide either for free movement among the different rooms on the ground floor or for any effective architectural treatment.

The grand staircase having been done away with, a much more modest one was substituted in the rear of the building. The way was thus cleared for a central court, roofed in glass and finished in Caen stone, which forms the dominant feature of the plan. This court is separated from the entrance hall by a wooden screen, beautifully designed and carved, but it communicates freely through its arches with the rooms into which the floor is divided. Such a court existed in the first plan, but it was deprived of any effect by the staircase. Back of this court is the art gallery, which remains as it was, and which can be used for dancing. To the right is a library, formerly Col. Astor's dining room, which has not been essentially changed by the new architects. To the left is the new dining room, which has been done over completely, and which is an apartment of rare beauty and distinction. The smaller reception rooms to the left and right of the entrance on the avenue frontage of the house have not been materially altered; but in one room, a good deal of money was spent upon new furnishing. The existing arrangement of rooms is extraordinarily well adapted to the entertainment of a large number of guests, whether by way of a dinner, a dance or a reception.

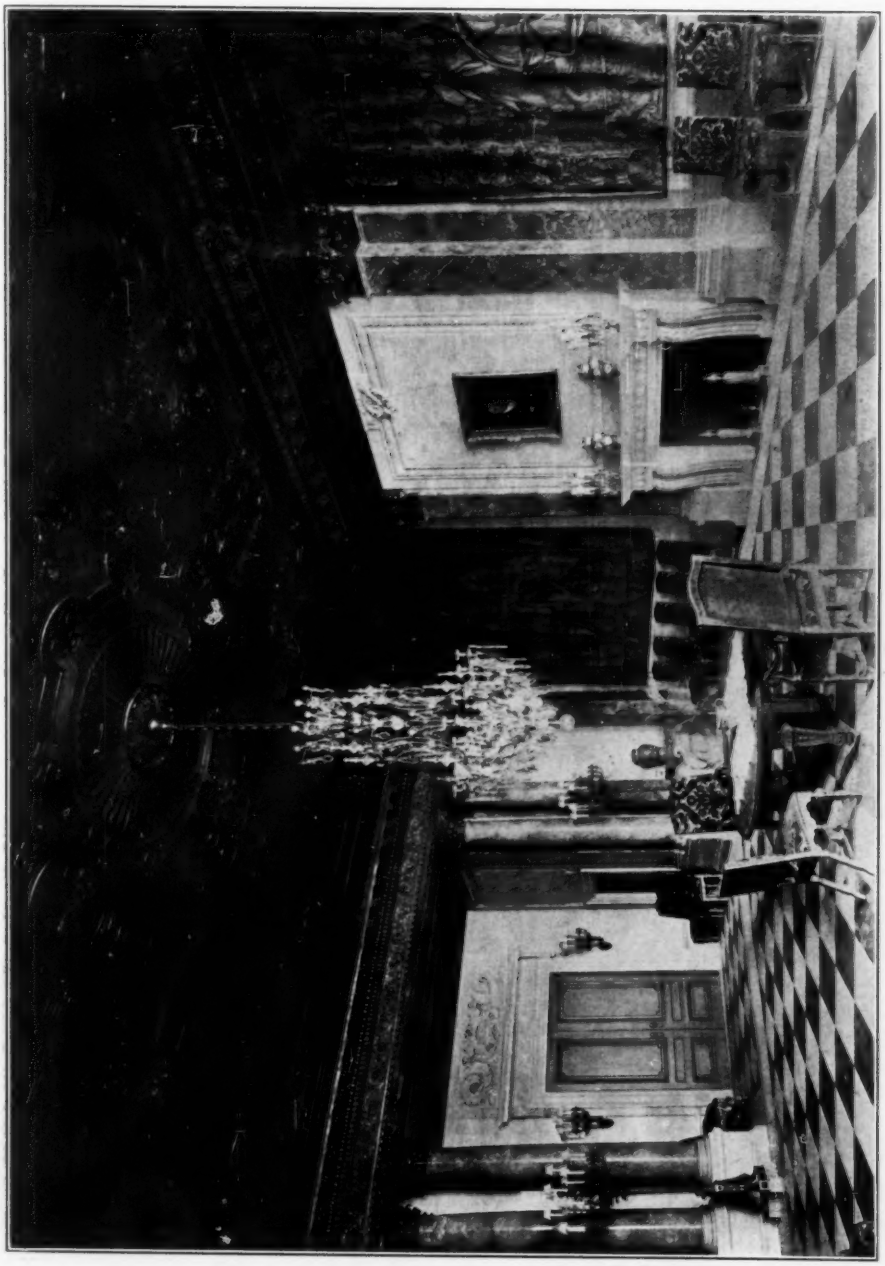
The reader need only compare the new dining room with the reception room or library in order to trace the different point of view towards interior design, which has become characteristic of the majority of the better contemporary architects. The earlier rooms are careful examples of so-called "period" design; and in executing this class of work the architect was usually much more preoccupied with general precedents than he was with imparting distinction and flavor to a particular room. The new dining room, on the other hand, while it is composed entirely of traditional architectural material, cannot be identified absolutely with any single period. The architects have contrived to give it individuality and distinction, while still keeping it congruous with the rest of the house and while adhering strictly to the forms of the classic French decorative styles. It is apparent that the change has constituted an improvement, and it is to be hoped that mere architectural scholarship will never again become so large a part of the equipment of the average good architect, as it was twenty-five years ago.

SCREEN IN FRONT OF ENCLOSED COURT—RESIDENCE OF COL. JOHN JACOB ASTOR.
5th Ave. and 65th St., New York City. Carrère & Hastings, Architects.

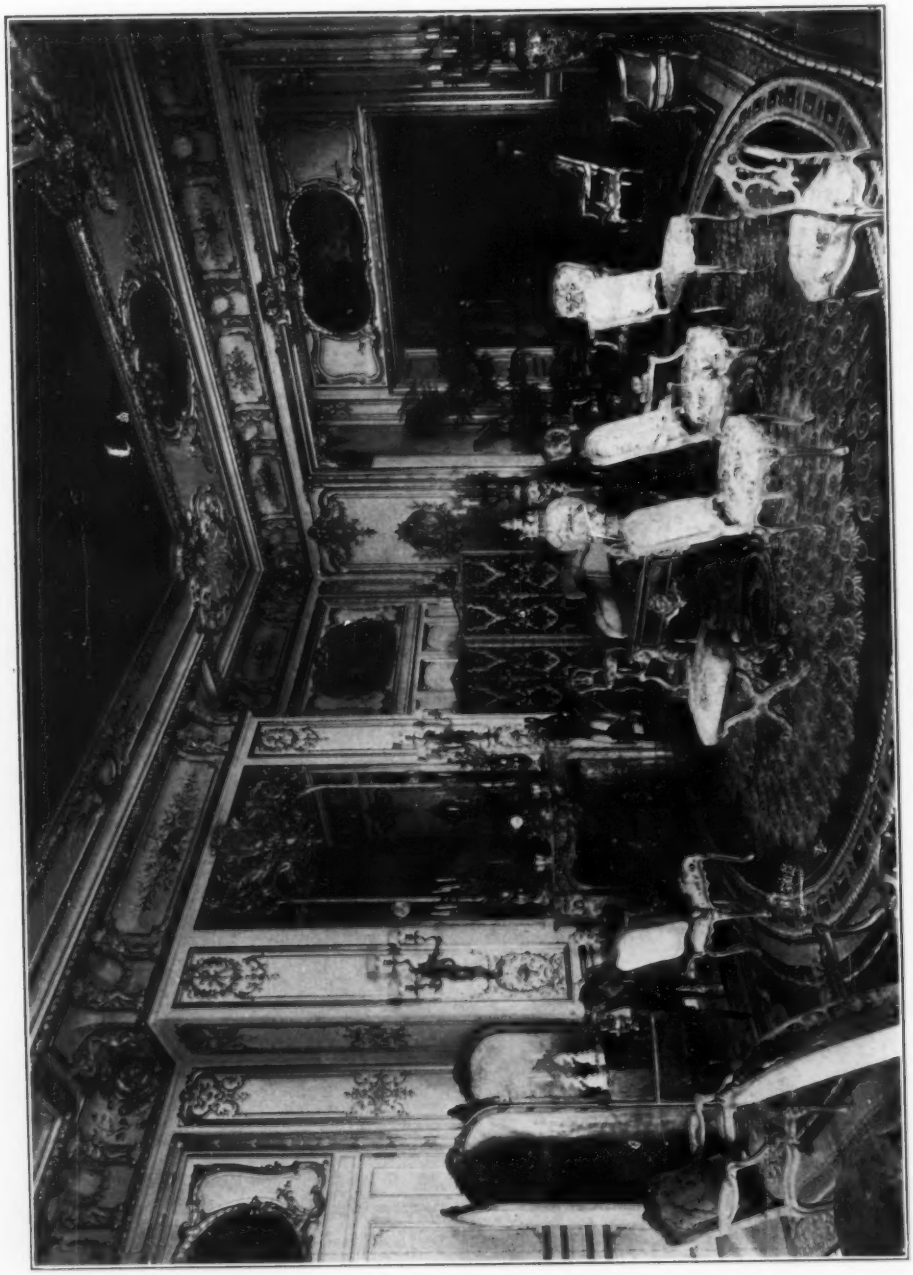


ENCLOSED COURT—RESIDENCE OF COL. JOHN JACOB ASTOR.
Carrère & Hastings, Architects.
5th Ave. and 65th St., New York City.

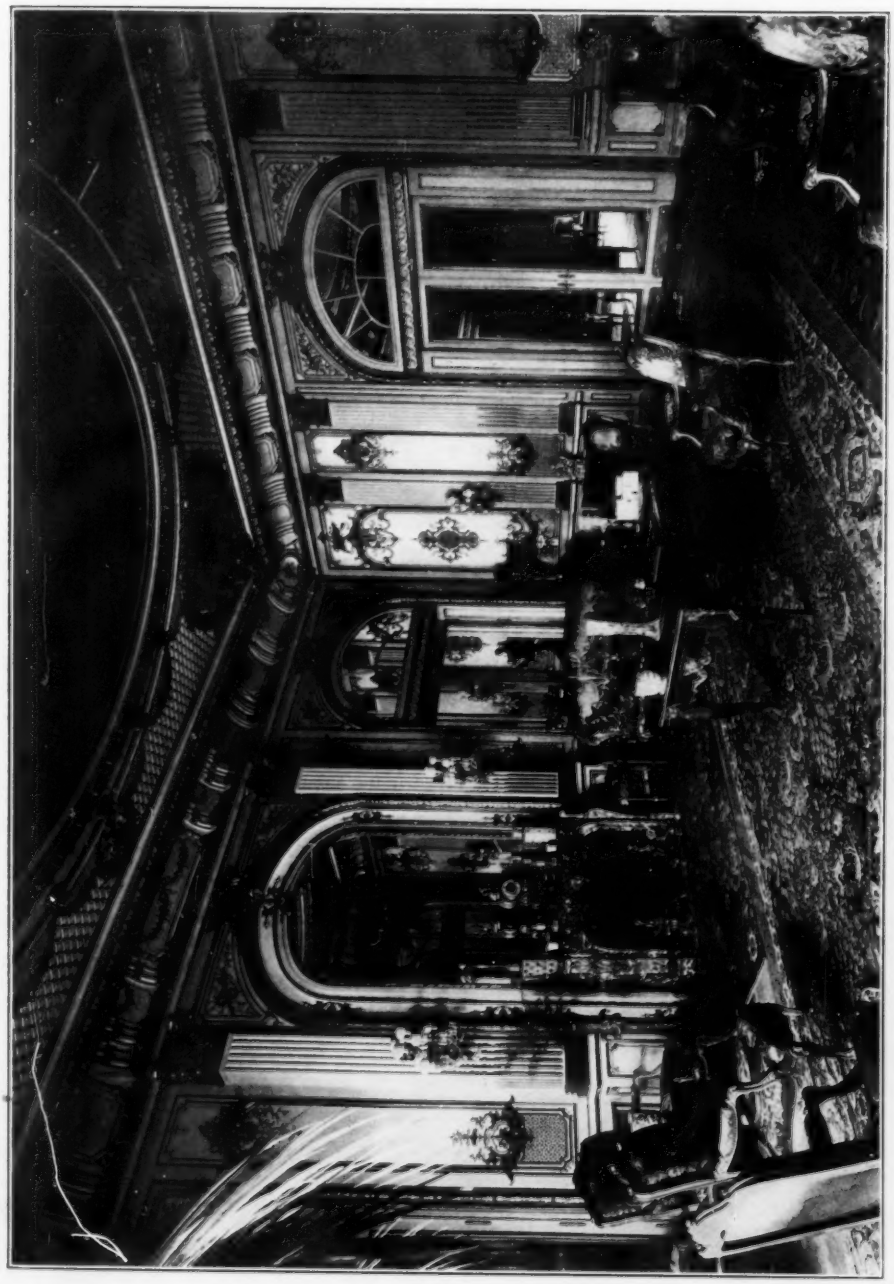
DINING ROOM—RESIDENCE OF COL. JOHN JACOB ASTOR.
5th Ave. and 65th St., New York City. Carrère & Hastings, Architects.



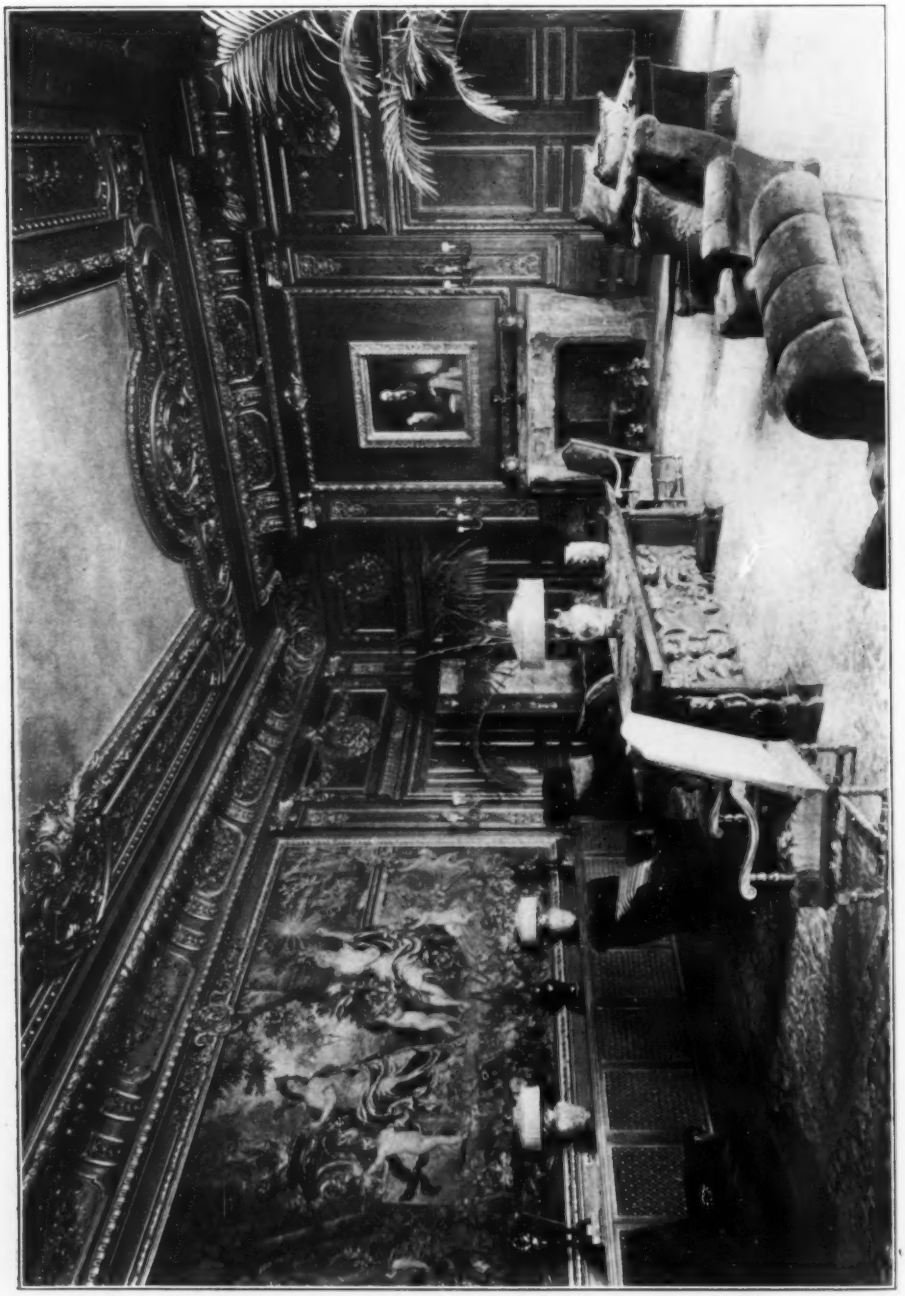
DINING ROOM—RESIDENCE OF COL. JOHN JACOB ASTOR. Carrère & Hastings, Architects.
5th Ave. and 65th St., New York City.



RECEPTION ROOM—RESIDENCE OF COL. JOHN JACOB ASTOR.
The late Richard Morris Hunt, Architect.
5th Ave. and 65th St., New York City.

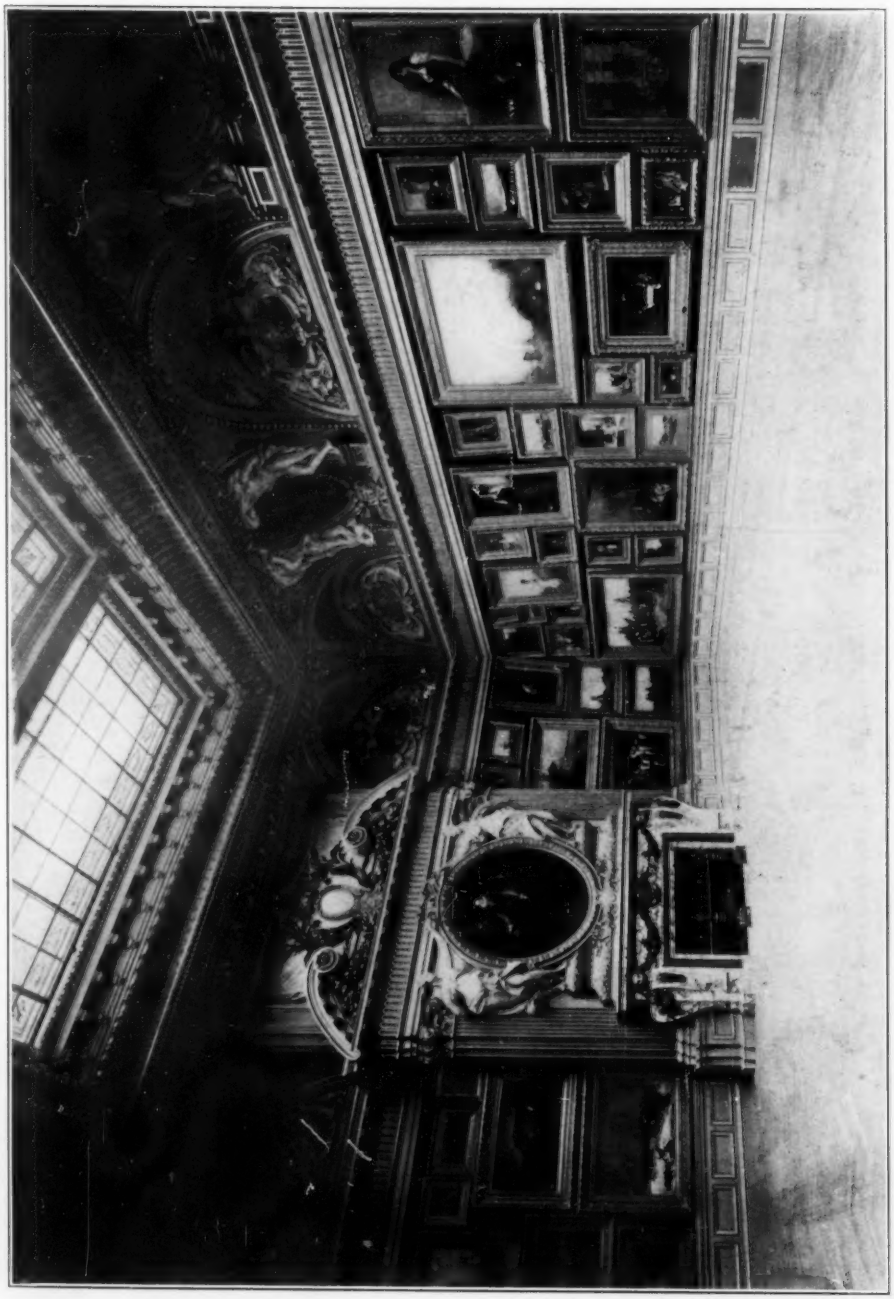


RECEPTION ROOM—RESIDENCE OF COL. JOHN JACOB ASTOR.
5th Ave. and 65th St., New York City. The late Richard Morris Hunt, Architect.



LIBRARY— RESIDENCE OF COL. JOHN JACOB ASTOR.
The late Richard Morris Hunt, Architect.

5th Ave. and 65th St., New York City.



ART GALLERY—RESIDENCE OF COL. JOHN JACOB ASTOR.
The late Richard Morris Hunt, Architect.
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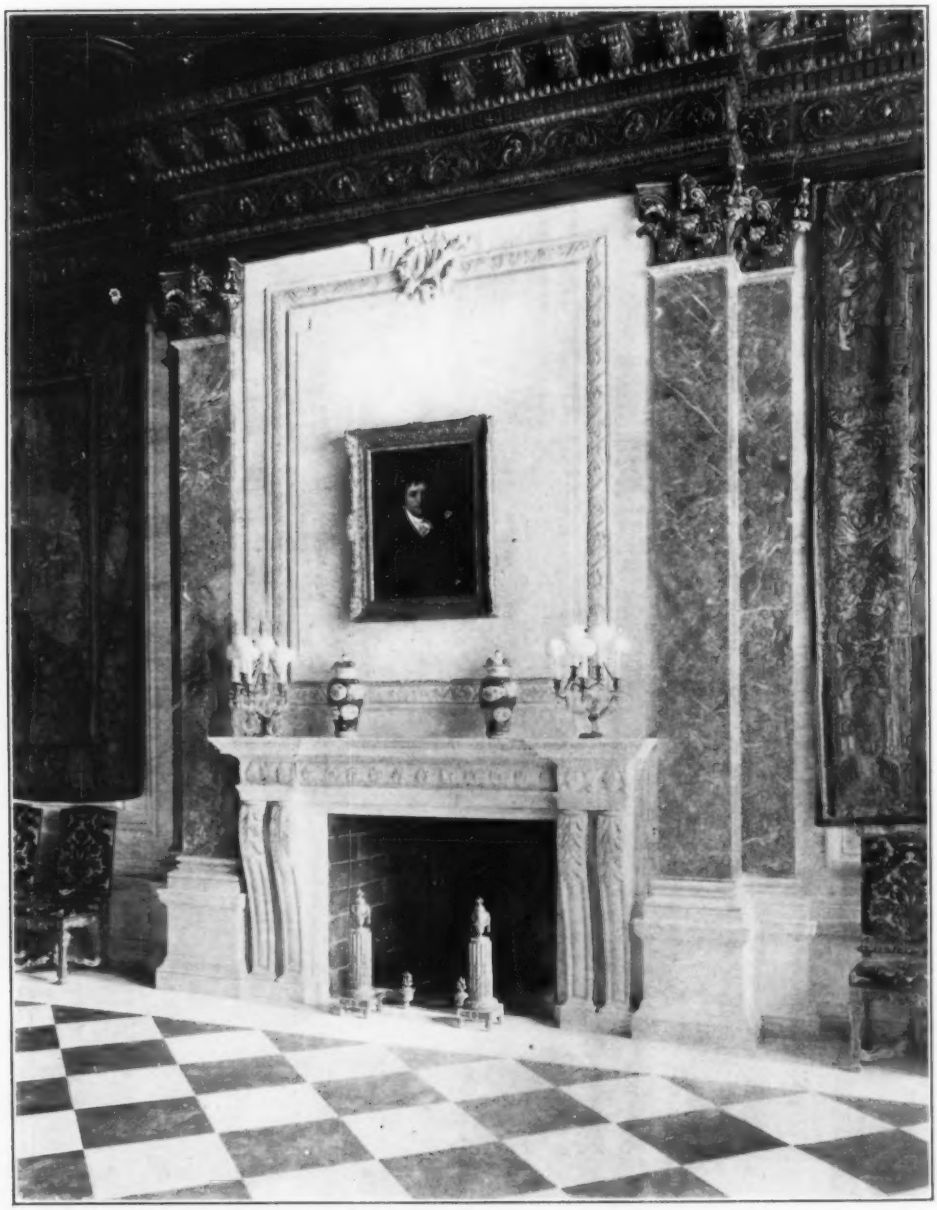
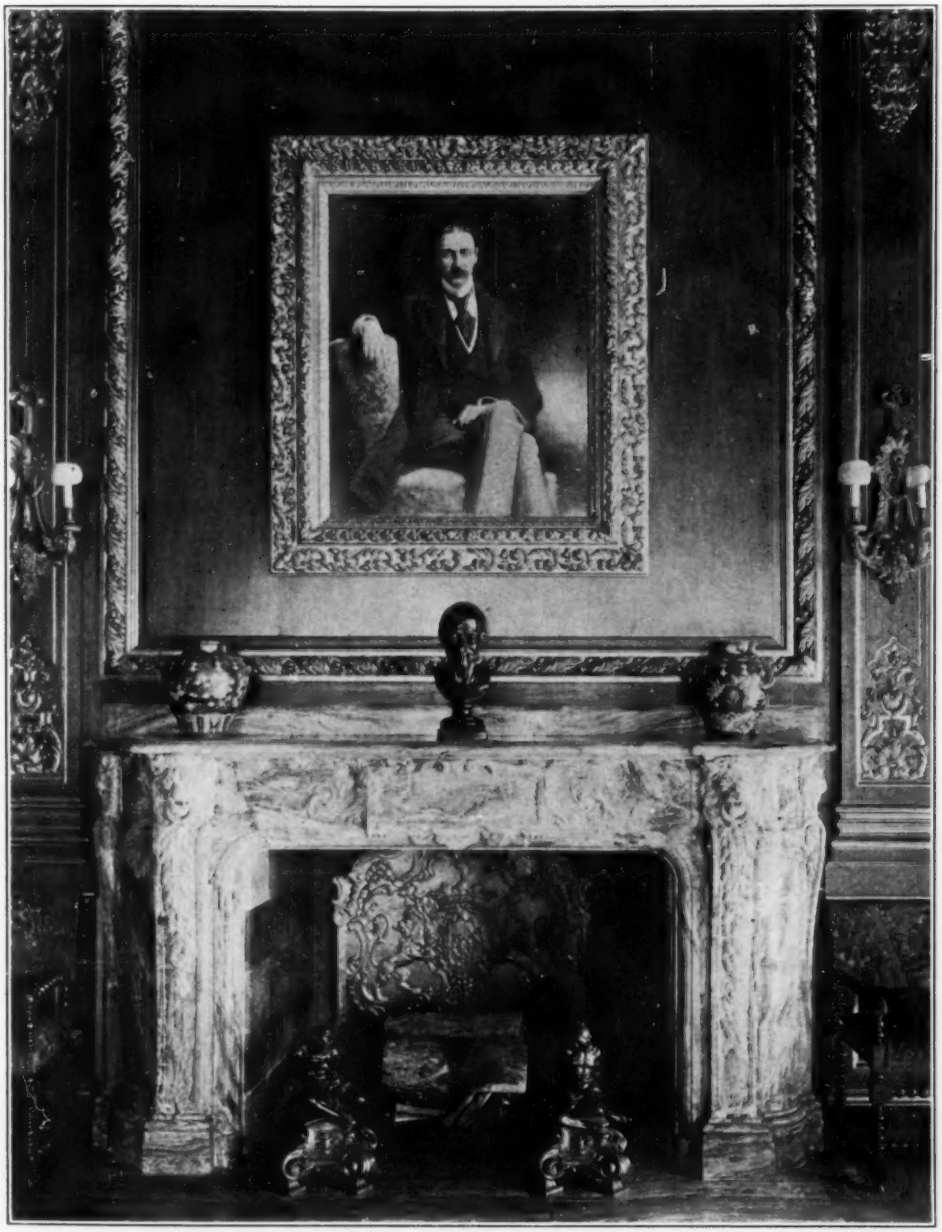


DINING ROOM MANTELPIECE—RESIDENCE OF COL. JOHN JACOB ASTOR.
5th Ave. and 65th St., New York City. Carrère & Hastings, Architects.



LIBRARY MANTELPIECE—RESIDENCE OF COL. JOHN JACOB ASTOR.
5th Ave. and 65th St., New York City.

MANTELPIECE IN THE CORRIDOR SURROUNDING INTERIOR COURT—
RESIDENCE OF COL. JOHN JACOB ASTOR.
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The Evolution of Architectural Ornament

IV.

Ornament with a Foliage Basis—The English Gothic School

The foliage carving of the Gothic period was entirely distinct from that of Classic tendency. It had its own origin and ran its own independent course, particularly in England, where there are few remains extant previous to the Roman occupation, these having been buried, and, for all practical purposes, not existent, during the Middle Ages. The influence even of contemporary work upon the Continent appears to have been little felt. Development there had a different origin, and while, to a certain extent, a similarity of sequence can be traced, yet, upon the whole, it is marvellous how distinctive is the English work, and yet how uniform it is throughout the whole of England; the same in Somerset as in Yorkshire, and in Cheshire as in Lincolnshire, during any particular generation, with comparatively little to indicate the influence of any one craftsman, or to differentiate the work of one man from that of another.

The first indication that there was to be a fresh evolution of foliage carving is to be seen in some of the Norman capitals, such as that illustrated in Fig. 81, from the small south door of Southwell Minster. Here the ornamentation upon the capital is mainly of the nature of a scroll, conforming with the outline of the scallops and incized after the manner of Byzantine ornament; but above the scroll occurs a series of elementary leaves, and another trefoil leaf is to be found carved on the face of the stonework just above the door itself and beneath the arch. If these have an origin at all, it is to be found in the Anthemion, but it is difficult to trace. Examples such as this are not entirely exceptional, and one even finds occasionally that the leaf developes a trifle further, as in the terminals shown to the curiously extended tail of the animal, forming a capital of Norman date, now lying in the vestibule of the Chapter House of Westminster Abbey and illustrated in Fig. 82. The leaf is here of a more natural type, closely conforming to a good deal of the foliage ornament which is to be found upon contemporary illuminated manuscripts.

These, however, only appear to have been tentative efforts. More has perhaps to be said for the broad leaves shown in Fig. 83, which represent those of the hartstongue fern before it has completely opened, and while the tips are curled over in a tight knot. Such capitals as these are occasionally found in late Norman work all over the country, but particularly along the eastern coast from Dover in the south to Newcastle in the north, and wherever Continental influence was strongly asserted. It is much more common, however, in France than in England, and can only be considered here to have been of foreign introduction.

It is Norman and not correctly speaking, Gothic; but it gives the first clue to the inspiration of Gothic carved foliage, which went straight back to nature, utterly regardless of precedents. Thus, as soon as the early Gothic style became fully established in the early part of the thirteenth century, we find an entirely new spirit at work. The idea of the broad leaf is put aside, but the suggestion contained in the half-opened tip of the fern is preserved, and it is found that thirteenth-century foliage is essentially that of the early spring. A good illustration of this is to be found in the large amount of such enrichment which occurs in Lincoln Cathedral, an early example of which, from the wall arcade of the main south transept, is shown in Fig. 84. Already the principle had become well established; the foliage rises

Fig. 81. Capital of Nook Shaft, Southwell Cathedral.

from the necking of the capitals in a number of narrow stalks, and then curls over immediately the obstruction of the overhanging portion is met with, intertwining and at times attempting to grow over and around it, but always acting like the young foliage of early spring, with knotted half-open buds and occasional half-formed trefoil or cinquefoil leaves, whose identity it is as difficult to distinguish as it is in nature. The carving is always crisp and admirably executed, sometimes bold and sometimes

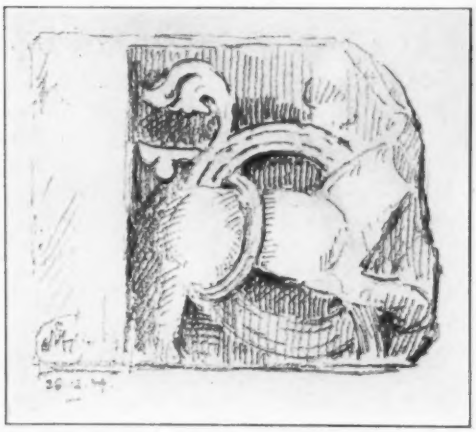


Fig. 82. Fragment of Norman Carving now in the Vestibule of the Chapter House, Westminster Abbey.

light design, according to the hand employed and the position where it is to be used, but always of the same perfect workmanship, whether it be found in a great cathedral or a little village church.

The example from Bristol Cathedral, given in Fig. 85, shows how the same general idea was occasionally adopted in connection with a less pronounced bell, the leaves in this case growing more out of the capital and having less indication of the stem springing originally

Fig. 83. The Oratory Chapel, Dover Castle.

from the necking. There is obviously a different hand at work, and to a certain extent a different recognition of the same root idea—of the treatment of spring foliage—which one could only expect, considering how far Bristol is from Lincoln. It is an example of comparatively formal treatment, just as that at Lincoln indicates the early stiffly rising stalks and the free and graceful

leaves of young spring shoots or seedlings.

At Westminster Abbey there appears to have been more freedom, though to what this is due, is quite in doubt, except, it may be, that the Abbey was wealthy and that the carvers were free to lavish any amount of skill on every little, tiny piece of work. Fig. 86 is sufficient in itself to show how they must have revelled in what they were doing: taking a bunch of natural leaves, tying them together, turning them in this way

Fig. 86. Capital in the Chapel of St. John the Divine, Westminster Abbey.

and that way, and then conventionalizing in the freest possible manner, undercutting where necessary to obtain strong shadows and allowing the foliage to grow right over the projecting upper member below the abacus. The work was obviously executed at a sufficiently late date for the idea of spring to have been somewhat far advanced. The foliage, too, was not confined to the capitals of shafts; it is to be found in many a beautiful spandrel piece and in Lincoln Cathedral even, between the main pier

Fig. 84. Capital in Wall Arcade of the Main South Transept, Lincoln Cathedral.

shafts; in the latter case in the form of independent leaves or crockets of spring type, and in the Chapter House at Westminster as a constantly repeated double scroll, of which a portion is shown in Fig. 87. This, like much of the Westminster work, gives some suggestion of Continental influence, where similar scrolls are more often found (though they are rare everywhere). The constantly recurring trefoil leaf, with its central rib, may be noted—the most characteristic leaf of all of this period, though one with five bulbs is also frequently to be found. The rounded char-

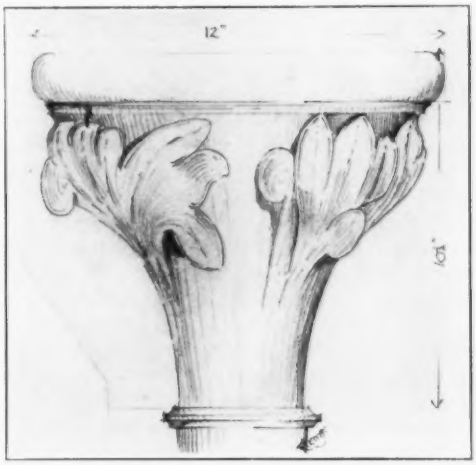


Fig. 85. Capital from Elder Lady Chapel, Bristol Cathedral.

Fig. 87. Portion of Scroll Enrichment of Door Jamb, Chapter House, Westminster Abbey (13th Century).

acter of the Westminster example is somewhat exceptional, and is another indication of French influence.

Similar foliage also occurs in the arch mouldings of the Triforium, as shown in Fig. 88, the variety being extraordinary. In the example given, the leaves radiate from centers, and form, as it were, a series of bosses along the moulding; and they show a tendency to extend beyond their bounds and to cover everything, which suggests that the original idea of spring was giving way to a certain extent to one of summer's luxuriance—a sure sign that the thirteenth century was advancing.

Right up to its close, however, the general type was fairly well retained, being displayed almost in its perfection in one of the bunches of leaves acting as a corbel to the piscina in Merstham Church, Surrey (Fig. 89), while the pair corbel to it (the nearer one) has leaves of quite a different type—still with a central stem, but more rectangular in outline, with the convolutions separated, not by mere cuts, but by a deep circular hollow. At first sight it would appear as if these two were executed at different times and by different workmen, one belonging purely to the thirteenth and the other to the fourteenth century; they are so entirely characteristic each of each. But this is not the case; so far as is known, they are contemporary and by the same hand. It only indicates that a new fashion was taking the place of the old one, which had held sway over the

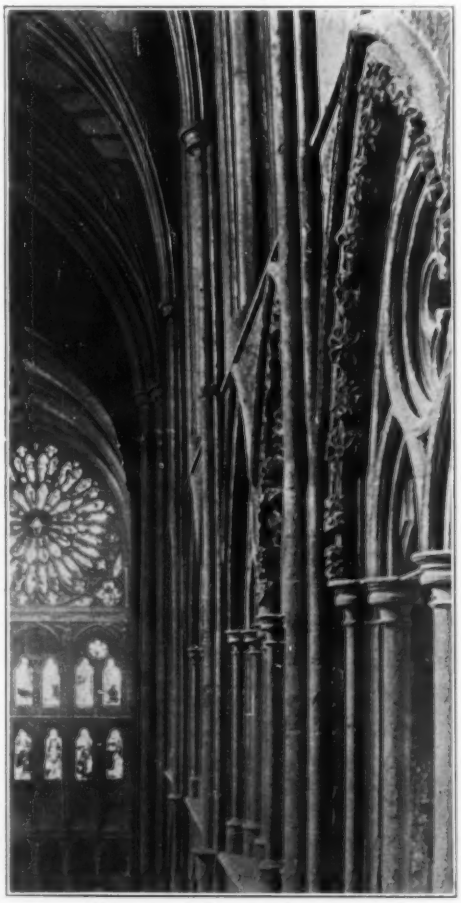


Fig. 88. Triforium Gallery of North Transept, Westminster Abbey (looking South).

Fig. 89. Piscina, Merstham Church, Surrey.

whole country and for a considerable period. In fact, summer was overtaking spring, and in this instance they are to be found, not gradually merging into one another, but side by side, just as the fully developed summer leaves on some plants are to be seen in our fields at the same time as the early shoots of others.

Very much the same thing occurs—though in one instance only—in the arcade of the approach to the Chapter House at Southwell Minster, where the carving is known to have been executed within a year or two of 1300 A. D. In the instance given in Fig. 90, the fully developed thirteenth-century leaf occurs in two tiers in the capital, the upper tier well undercut, and, in fact, quite clear of the bell behind, but still of the spring-like outline; while the small leaf above,

Fig. 90. Wall Arcade in Approach to Chapter House, Southwell Minster.

Fig. 91. Capital in the Arcade Leading to the Chapter House, Southwell Minster.

displaying a portion of the bough, is the fully developed summer leaf of the May tree which, as all of us know in England, comes to its full foliage at an early period of summer. In every other instance of foliage carving of the most wonderful series at Southwell, the leaves are of a natural and early summer type, and are perfectly recognizable. In the approach to the Chapter House, the work is not quite so fine as in the Chapter House itself. but Fig. 91 gives another example from the approach in which the May

Fig. 92. Capitals in Entrance to Chapter House, Southwell Minster.

flower is to be seen in composition with its leaf in the recess of the window opening, while other leaves occur in the boss above, which carries the hood moulding. There is still a certain amount of vertical tendency in the carving, and this is retained even in the well-known capitals, shown in Fig. 92, of the doorway of the Chapter House itself, which constitutes the most wonderful piece of stone carving which England possesses. The leaves stand away perfectly clear of the surface behind, undercut in a manner which appears marvellous to the carvers of the present day. Every leaf is perfectly lifelike, and with each is associated its natural flower, berry or nut, indicating that the carvers did not feel themselves absolutely tied by this time to the representation of the foliage of any particular season. Here, in the same group, we have the May flower and the hawthorn leaf, the vine leaf and young grape, and the oak leaf with its acorn, which, as all

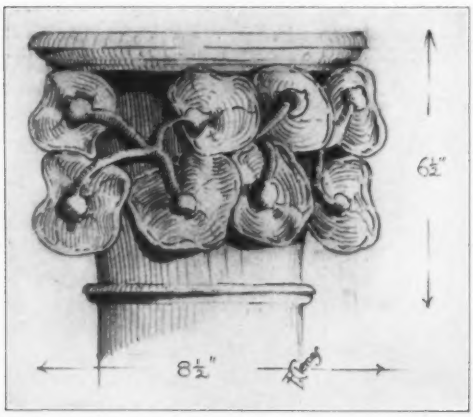


Fig. 93. Capital from Berkeley Chapel, Bristol Cathedral.

Fig. 94. Fragment of Bishop Dalderby's Shrine, Lincoln Cathedral.

observers of nature know, does not put in its appearance until the summer is well advanced. The representation is so lifelike that the photograph has almost the appearance of having been taken from clusters of the foliage itself, and this in spite of the fact that six hundred years have elapsed since the carving was executed. The stone shows scarcely any sign of weathering, but here and there the carving has suffered from deliberate or accidental destruction, as, for instance, in the hollow moulding in the jamb, from the lower portion of which it has been entirely knocked away, show-

ing how the undercutting may possibly have been done by drilling through before the stone was laid, and finishing the surface afterwards. The same process, however, could hardly have been applied to the capitals. One little point to notice is the appearance of the natural stem from which the leaves grow. This has all the appearance of the younger growth of wood and not of a substantial bough, while it is shown in each instance as lying upon the surface with its cut end displayed, and not as growing out of the necking of the capital, indicating that the carvers did actually take natural leaves and little branches for their models. Of conventionalization, there is absolutely none at all.

Unfortunately, there is very little work of this purely natural character anywhere in the world; there is certainly none which is superior to that at Southwell, where, if it was not done by one hand, it must have been all under one influence—an influence so strong as to have changed the whole idea of the carving of its time, from that of conventionalized spring foliage to the representation of the natural foliage of summer, which remains the principal characteristic of the English work from the year 1300, during the period of the great wars with France, until the breaking out of the plague known as the "Black Death" in 1349.

A somewhat exceptional example is illustrated in the capital from Berkeley Chapel at Bristol Cathedral (Fig. 93), where the leaves are shown as clustering more round the bell, while the stems are somewhat prominent. A farther example (Fig. 94) is from the only fragment now remaining of Bishop Darderby's shrine in Lincoln Cathedral, probably carved about the year 1335. The leaves are now larger, but the fact that they are not undercut merely indicates that they are not the work of the great Southwell carver, for scarcely any other work is to be found which is like his in this respect. The greater size of the leaves, however, and their detachments, are sure indications of a somewhat later date; they are the leaves of late, rather than early, summer, and are not always so easily traced to their natural origin. It may also be remarked that there is by no means so much carving in England of this period as of the previous century. The greater churches were already built, while the country was to a great extent impoverished, being drained of its money in order to prosecute the French wars. Carving, where it occurs, is generally found upon small ornaments, such as this at Lincoln and the three great tombs in Westminster Abbey, of which an illustration is given in Fig. 95. These belong to the period just precedent to the occurrence of the "Black Death." The spandrel carving, in particular, is noticeable, from the natural character of the leaves, which, like

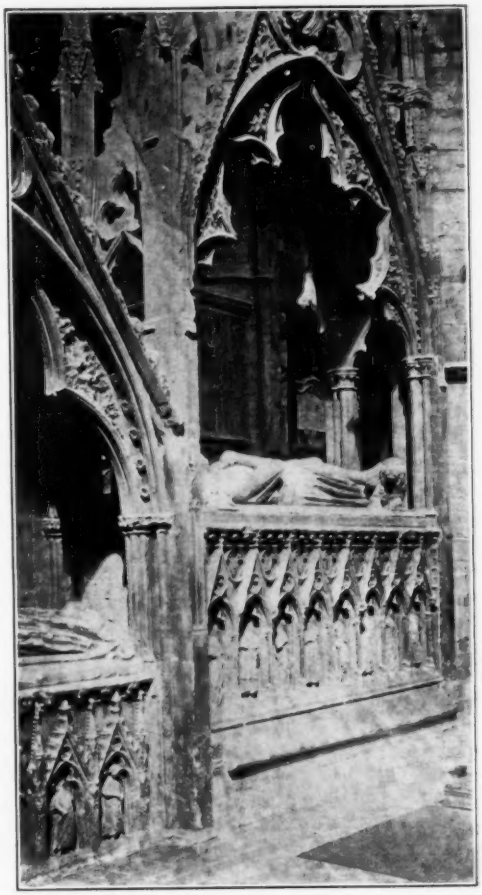


Fig. 95. Fourteenth Century Tombs, Westminster Abbey.

Fig. 96. Capital from Kingston Seymour, Somerset.

those at Lincoln, represent the period of late summer, still well modeled, but not quite so crisp as at an earlier date, and, in fact, comparatively flatly treated. The scale of the photograph is, however, somewhat small for all the detail to be well observed; but it may be noticed, on close examination, that the leaves grow upon the capitals in quite a natural manner, and that the crockets also grow leaf above leaf in regular sequence, rounded in outline and connected. At an earlier period they would have been detached from one another, and at a later date they would have been angular.

The "Black Death" proved to be such a terrible scourge as to practically stop all building operations until a generation grew up which was not affected by it. Yet, strangely enough, when, about the year 1400, building recommenced, it did so upon the same tradition and almost in unbroken sequence with what had gone before. It is perhaps impossible to put an exact date to the capital from Kingston Seymour, shown in Fig. 96, but it belongs to about this period. The leaves have opened out and are still modeled in a perfectly natural manner, but the modeling is that of an old and not of a new leaf; the carvers have gone to nature, but have preferred to copy the foliage of autumn rather than that either of summer or of spring. This tendency shows itself more and more as time goes on, combined with a gradual hardening of the outline into more or less rectangular forms, and an occasional crisp serrating of the larger leaves. Both these tendencies are indicated in Fig. 97, which shows two capitals from the northern chantry in Lincoln Cathedral, known to have been executed about the year 1430. The leaves upon the capitals are exaggeratedly large, with huge ribs and serrations, while those in the hollow moulding above show a tendency towards a rectangular outline with each lobe formed as an approximately rectangular trefoil, the leaves being connected by a continuous stem, knarled and even cut, which, as will be noticed, has been accidentally broken away in one place. Two things are clear. One of these is that the mason has been copying autumnal foliage, and the other that he has conventionalized it and has executed his

Fig. 97. Capitals in the Northern Chantry, Lincoln Cathedral.

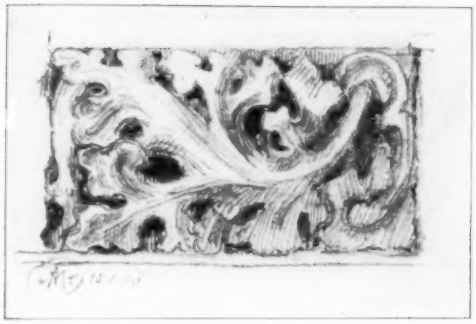


Fig. 98. Enrichment of Cornice over Entrance to South Aisle, Henry VIIth Chapel, Westminster.

stone carving from a wax or clay model, and not immediately from nature.

The fashion thus established about this date seems to have been retained for something like a hundred years; in fact, during the whole of what is known as the Perpendicular Gothic period. The foliage is everywhere autumnal and flat, and there is a large amount of it, varying comparatively little in general character. The example given in Fig. 98 from Henry VIIth's Chapel, Westminster, is very closely allied indeed to that in Fig. 97, in spite of its much later date. The only change is that between early and late autumn, for the leaf at Westminster is of the character which one associates with what is called the fall in the Western hemisphere.

A good deal of the carving of this time which still remains to us has been carried out in wood and not in stone. A small, but typical example is given in Fig. 99, taken from the north porch of Merton Church, Surrey. The treatment is flat, and the cutting such as is eminently suited to the sharp chisel of the wood carver, rather than to the blunt tool of the mason. The leaf has been conventionalized out of recognition, but is well modeled upon the surface, in addition to being well serrated.

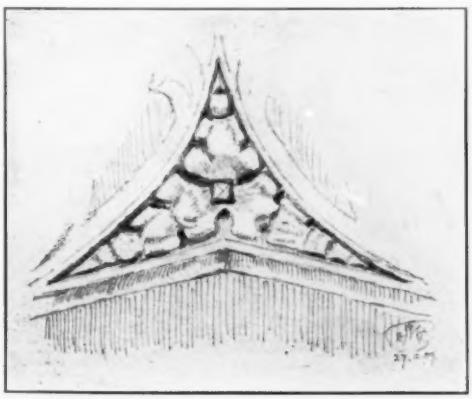


Fig. 99. 15th Century Carved Wood Spandril in Tracery of N. Porch, Merton Church, Surrey.

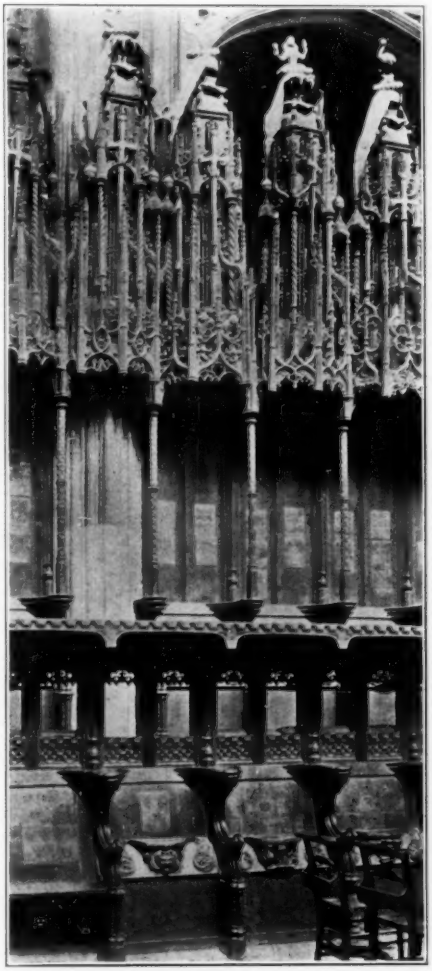


Fig. 101. Choir Stalls in Henry VIIth Chapel, Westminster Abbey.

A more precisely cut example, so far as the leaves, at any rate, are concerned, and more recognizable as to what the

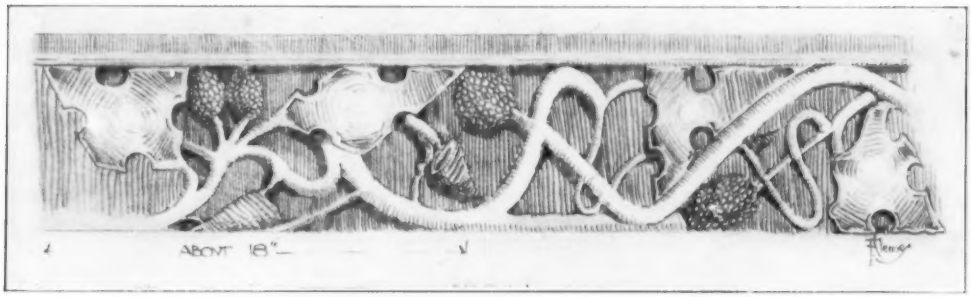


FIG. 100. SCREEN. BRISTOL CATHEDRAL. (PART OF CRESTING, ETC.).

leaf is intended to represent, is that shown in Fig. 100, illustrating a small portion of the cresting of the screen in Bristol Cathedral, with its sharp autumnal twisted bough, its sharp angular leaves, conventionally representing those of the vine, and the knots of grapes and the twisted tendrils. The steadily increasing appearance of the bough or stem, and the disappearance of the leaf, is another indication of the later period in England. This was rarely carried to the extreme of displaying the bare bough of winter, as the Reformation put a sudden stop to the development of English Gothic work; but even this is to be seen in the canopies of the choir stalls in Henry VII.'s Chapel, Westminster (Fig. 101), which are amongst the latest specimens of Gothic carving in the country. A few leaves are to be observed, here and there, of a greatly decayed type, such as might be left throughout the whole of winter time upon a tree from which the greater part had fallen, but the foliage, if foliage it can be called, consists almost entirely of bare twisted boughs, not easily distinguishable in a photograph from the tracery of the canopy head itself.

How it came about, we cannot now determine, but it is clear to any who have observed closely that there is this regular sequence in Gothic foliage carving, following that of nature. That if the thirteenth century represents the spring, that of the fourteenth century more than indicates the summer, and that of the fifteenth century doubtless the autumn merging into winter. Ocasionally divergencies from this, such as the appearance of the acorn amongst the early summer foliage of Southwell Chapter House, cannot be taken to disprove the general tendency; they only go to show that the carvers were not working with deliberation. It is, in fact, impossible to believe that the men of the thirteenth century, with their ideas of spring and opening life, could have had any foreknowledge of what their grandsons and their grandsons' grandsons might do. They could not have known that those who were to folow them would supersede spring by summer and summer by autumn. Even the later men may not have recognized what they were doing. They followed a gradually changing fashion, which for the period was universal throughout the country. In all

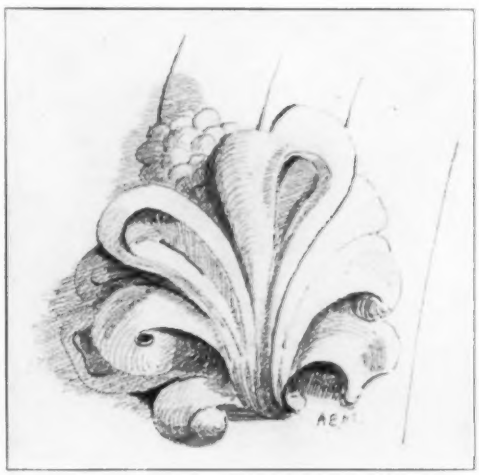


Fig. 102. Terminal to Hood Moulding, Uppingham School Chapel.

cases they went to nature for their inspiration.

Neither of these facts seems to have been fully appreciated during the Gothic revival of fifty years ago. In all the books of that time the thirteenth and the fifteenth century foliage is spoken of as conventional; the first as stiff-leaved or stiff-stalked, and the last as rectangular. To a certain extent the writers were correct, but had they recognized the succession of the seasons probably better work would have been done by the masons who put their theories into practice. With workmanship which fell little short of that of their Gothic forefathers, and with an almost equal appreciation of beauty of form, they occasionally committed incongruities, such as the introduction of the autumnal grape amongst a group of spring leaves, as shown in Fig. 102, which illustrates one of the terminals to a hood moulding in the chapel connected with Uppingham School.

G. A. T. Middelton, A. R. I. B. A.,
President of the Society of Architects, England.

FIG. 1. ALBERT G. LANE TECHNICAL HIGH SCHOOL.

Chicago, Ill. Dwight H. Perkins, Architect.

Public School Architecture at Chicago

THE WORK OF DWIGHT H. PERKINS

The City of Chicago chooses its school architect by competitive examination. The examinations are very thorough, and are conducted by the Civil Service Commission. They are managed and judged by the best architects in the City. Hence no one can be architect for the Board of Education unless he knows how to plan, design and construct schools with his own hands, and is not necessarily dependent upon designers and draftsmen. The designs of the Chicago schools are therefore the designs of the school architect, even though he has the assistance of fifty or more assistants of all kinds in the architectural department of the Board. For the Board maintains an admirably appointed architectural office, with the necessary specialists under salary, all of whom, as well as the draftsmen, specification writers and clerks of works are appointed after competitive examinations. In conjunction with the Architectural office is that of the Engineer, who, with necessary assistants, looks after the planning and execution of all the heating, ventilating, plumbing and mechanical equipment of the schools. The Constructional engineering is all attended to in the Architectural department, the services of outside Civil Engineers not being necessary, because skyscrapers with elaborate and costly foundations and steel frames are not required in school architecture.

The present architect of the Board of Education is Dwight Heald Perkins, F. A. I. A. (or was when this was written). His predecessor was William Bryce Mundie, F. A. I. A., and the predecessor of the latter was Normand S. Patton, F. A. I. A. Mr. Perkins has held the office five years. During this time about forty new schools and additions to schools have been erected from his designs, and under his direction. They all give evidence of the progressive spirit and independent thought that have characterized the work of a large number of Chicago architects during this time, illustrations of which have appeared in the Architectural Record for the last three months. Mr. Perkins's schools comprise the whole range of school planning from the great Technical High schools down to the one story school for crippled children. From these I have selected eight typical examples for illustrations.

During Mr. Perkins's term of office the law has required that all schools three stories or more in height shall be erected in a fireproof manner, hence the buildings are of a more permanent character than any previously erected. The high many-storied buildings have also been abandoned, and schools are now given a larger amount of surrounding open spaces than formerly; in some cases having extensive play grounds, in others being adjacent to the public playgrounds which have recently been established by the Park Commissions. Mr. Perkins may be called the father of the Small Park and Play-ground System of Chicago, having first suggested it and having been a member of the Small Parks Commission since its organization. He is also the first advocate of what is known as the "Outer Park System" and has planned a series of parks connected by parkways, completely surrounding the City except on the lake side, which will undoubtedly be so connected in the near future, extending through the still wooded and beautiful rural districts of Cook County, and following natural streams in many places.

Formerly the public schools were designed in the conventional styles, which involved attempts to give them "architectural effects," a few of them with good results, but most of them commonplace. These buildings were exteriorly more elaborate and costly than those designed

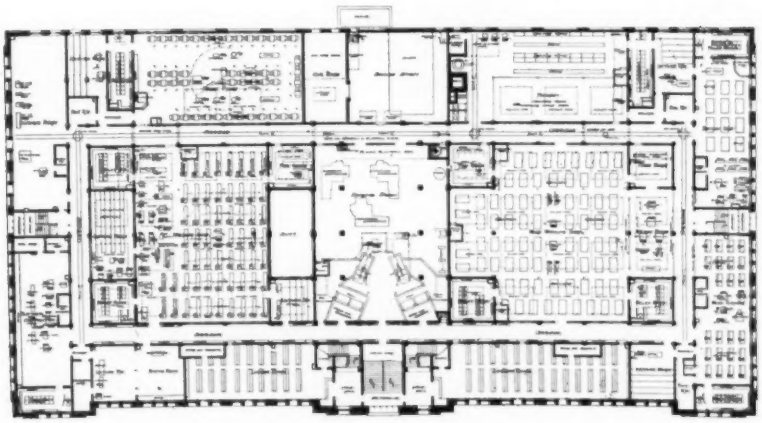


FIG. 2. ALBERT G. LANE TECHNICAL HIGH SCHOOL.
Ground Floor Plan.

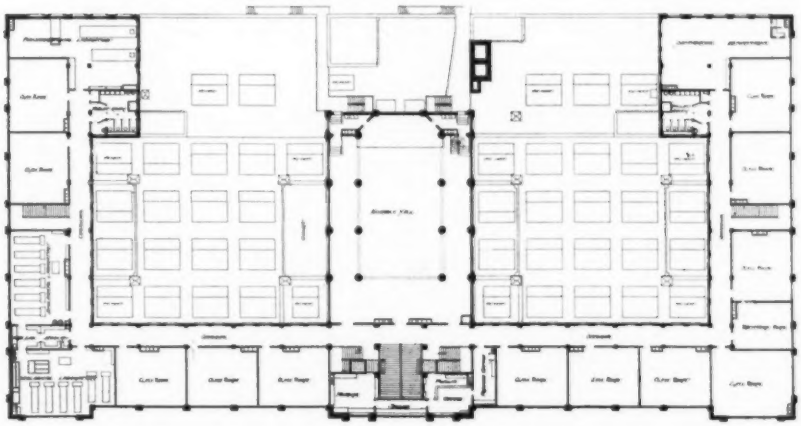


FIG. 3. ALBERT G. LANE TECHNICAL HIGH SCHOOL.
First Floor Plan.

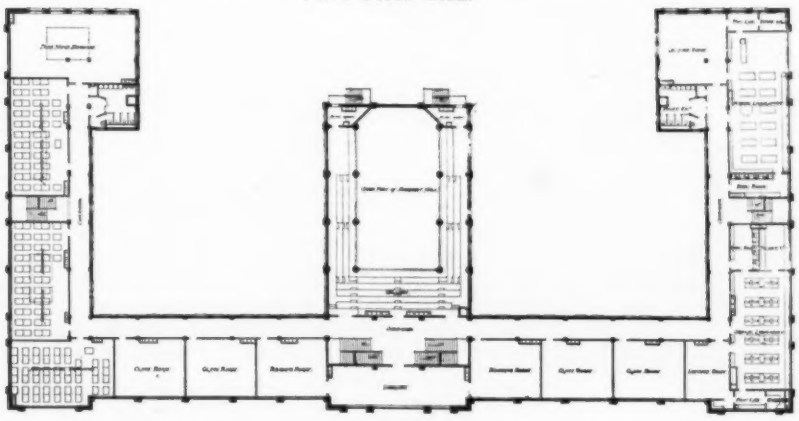


FIG. 4. ALBERT G. LANE TECHNICAL HIGH SCHOOL.
Second Floor Plan.

FIG. 5. ALBERT G. LANE TECHNICAL HIGH SCHOOL—CENTER ENTRANCE.
Chicago, Ill. Dwight H. Perkins, Architect.

by Mr. Perkins. But he has not given us any more of the kind with pilastered walls, terra-cotta Renaisance capitals and galvanized iron cornices. They are all either of brick and stone or brick and terra-cotta, each in its right place as a constructive material fulfilling the purposes as planned.

One of the first buildings that Mr. Perkins was called upon to design was the Albert G. Lane Technical High School. Chicago has many high schools and several manual training schools. But five years ago it was decided to establish a school which in the instruction that it offers, should stand between the high school and the technical universities which confer degrees. In the Lane School the highest course of education furnished by the Board of Education is given. Scholars graduated from it may enter any of the universities that carry technical education into the higher theoretical branches. But this Technical High School performs a still more important duty to the people. It is not alone a preparatory school for the universities. It is not expected that any large number of its graduates will be able to continue their education farther. Its main purpose is to furnish a good education for foremen and superintendents of manufacturing establishments, and to supply a higher order of mechanics than those who are obliged to work upward through manual labor alone. It was established in what might be called a mechanics' neighborhood, if not a poor neighborhood. An entire city block was procured, part of which had been formerly occupied by one of the oldest public schools. (See Figs. 1, 2, 3, 4, 5 and 6.) Three floor plans are shown in the illustrations. The ground floor is nearly on a level with the surrounding streets. There are only two stories above this, both with ceilings of good height, for many of the rooms are large. Only the central section is carried up two stories higher above the assembly hall, which has a gallery occupying a full story. The story immediately over the

FIG. 6. ALBERT G. LANE TECHNICAL HIGH SCHOOL—WOOD WORKING SHOP.
Chicago, Ill. Dwight H. Perkins, Architect.

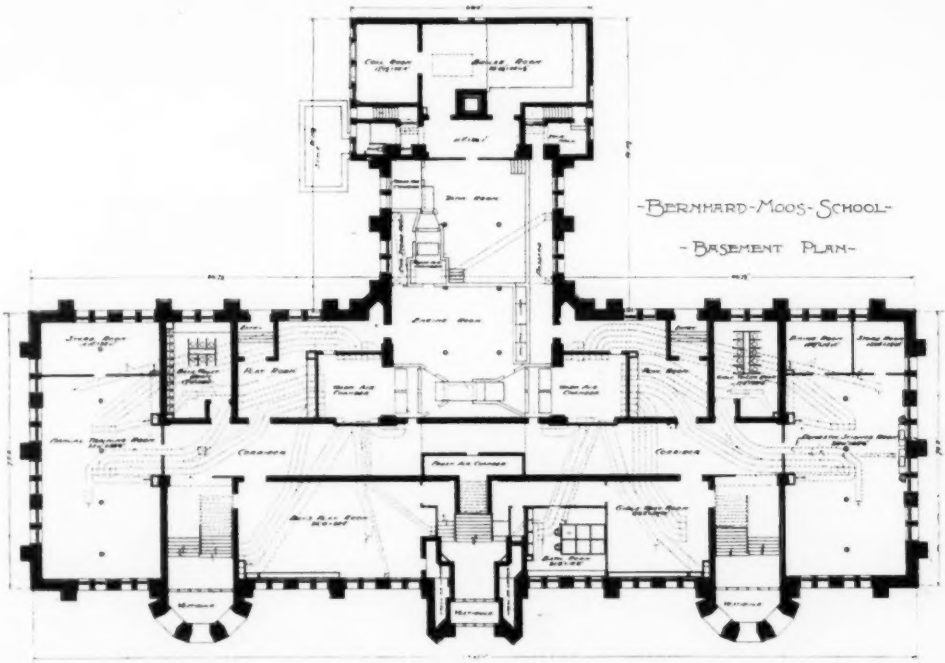
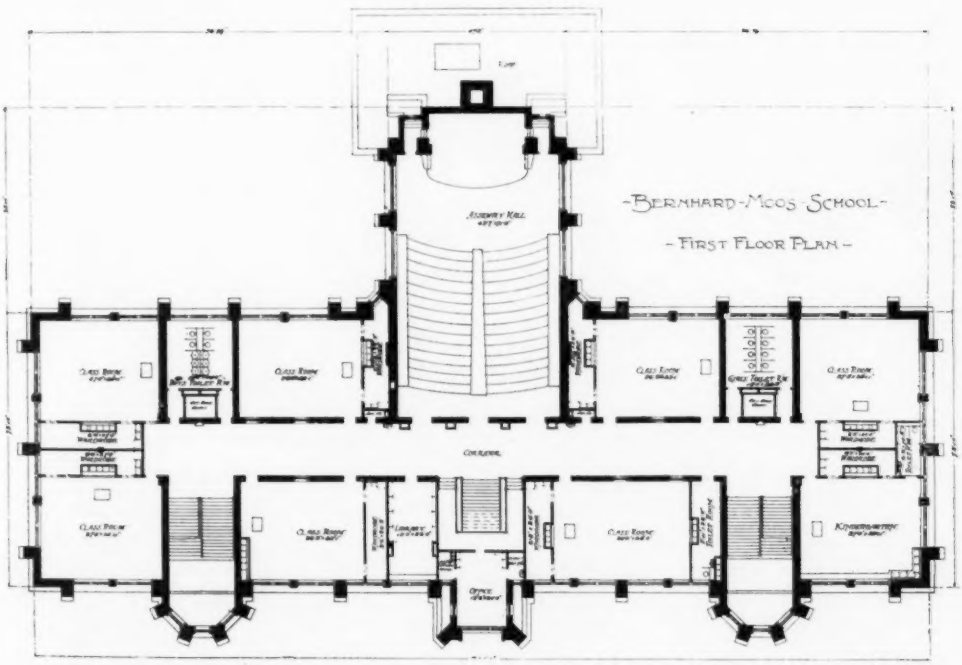


FIG. 8. BERNHARD MOOS SCHOOL.
Basement Plan.



IG. 9. BERNHARD MOOS SCHOOL.
First Floor Plan

FIG. 7. BERNHARD MOOS SCHOOL—FRONT VIEW.

Dwight H. Perkins, Architect.

Chicago, Ill.

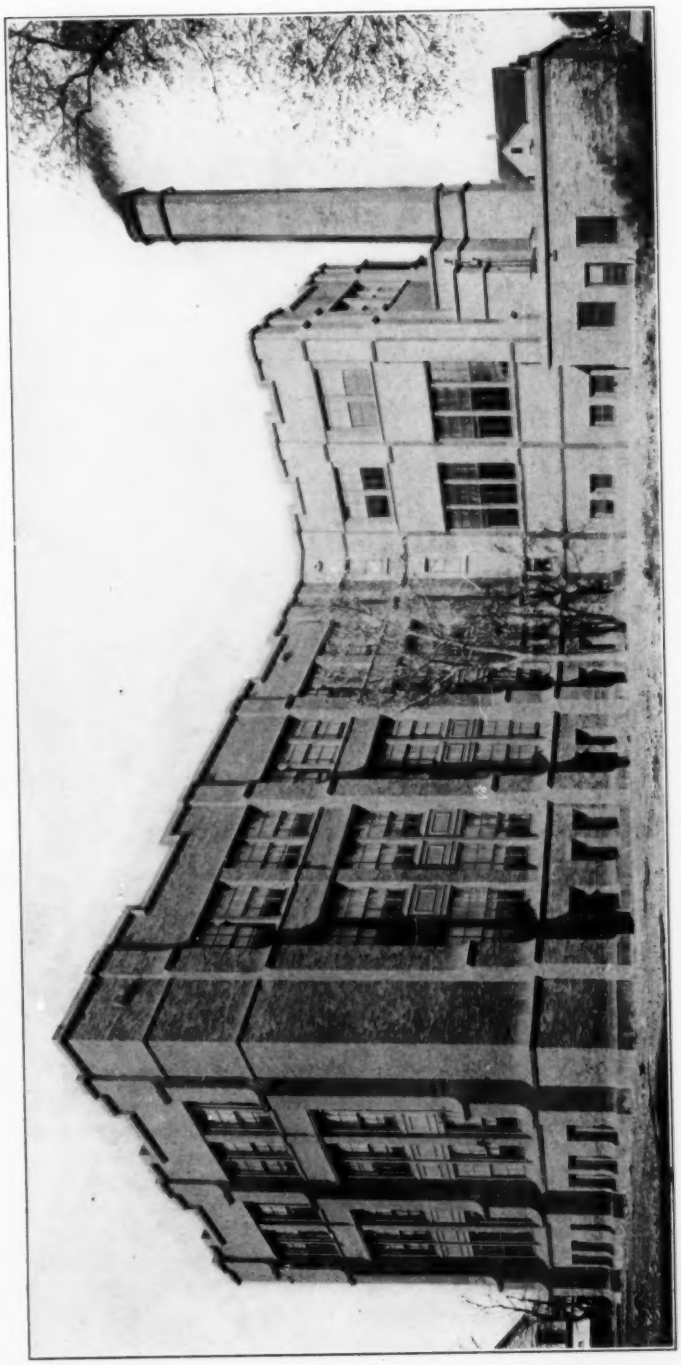


FIG. 10. BERNHARD MOOS SCHOOL—EAST FRONT. Dwight H. Perkins, Architect.

Chicago, Ill.

assembly hall is a lunch room, where meals are furnished to the students at reasonable prices. Over this is the gymnasium, with a gallery for a running track. To attempt any more detailed description of the plans is impracticable in the limits of this article. Moreover, it is impossible, in the compass of a magazine page, to illustrate the minutiæ of the ground floors of such an immense building. A fair idea of how the wood-working department is used may be obtained in the illustration from photograph. The power plant on the ground floor serves also as a department for instruction. The illustrations of the exterior speak for themselves. They are entirely rational developments of the ground plans in brick and stone, without any attempt to introduce extraneous ornament.

The Bernhard Moos School (Figs. 7, 8, 9, 10 and 11) is a typical illustration of one of the newest grade schools for which ample ground room was furnished and thorough lighting afforded. It has also a large assembly hall in a rear extension. This building has a ground-floor story and three floors above it, and is as high as any of the schools are allowed to be built. It is quite unnecessary to repeat that this and all the schools illustrated are fireproof buildings. One of the fireproof stairways is given in an illustration. The exterior walls are all buttressed for strength, not for ornament, and are made effective with the simple details employed in the offsets, and as combined with the wall coping, whose line is carried continuously around the entire building, producing a marked effect of unity. The polygonal towers contain only the platforms of the stairways, and the projecting entrance is all utilized, as will be seen by the plans. This effect of unity and harmony is se-

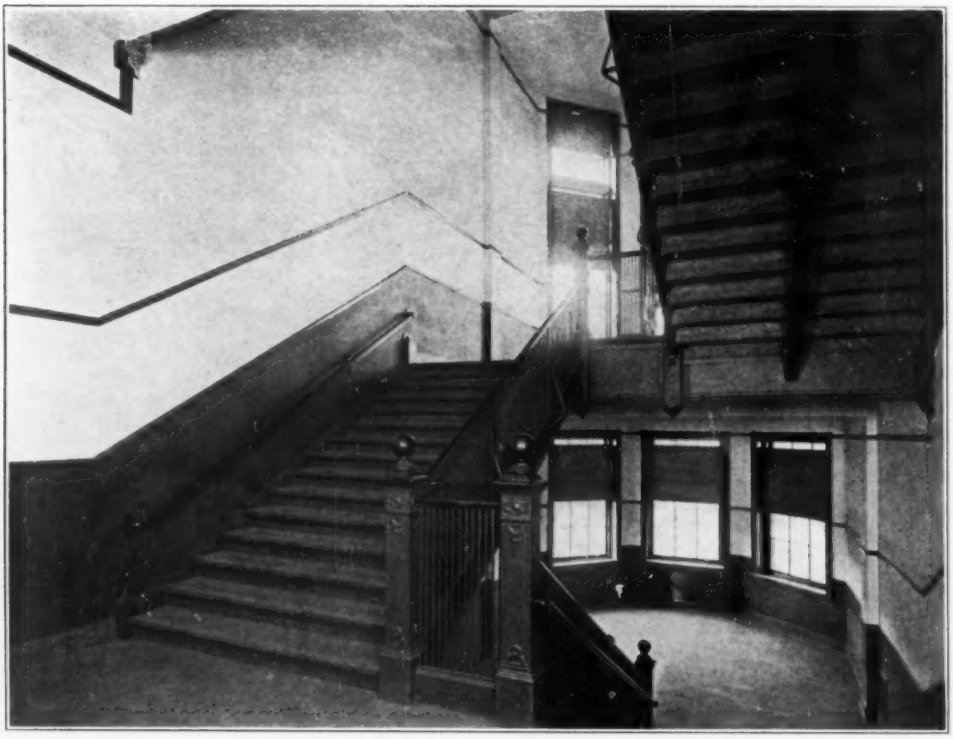


FIG. 11. PUPILS' STAIRCASE—BERNHARD MOOS SCHOOL.
Chicago, Ill. Dwight H. Perkins, Architect.

cured by the use of only one sectional detail for every part of the terra cotta work.

Another school that is illustrated with ground plans is the Stephen K. Hayt (Figs. 12, 13 and 14). This is also a three-story and high basement building, of which two plans are given. It is more compact than the last mentioned. The basement story covers nearly the whole of the ground. But this building was erected before it was decided to it forms a permanent screen for lantern illustrations. These are required not only in school lectures but in public lectures for which these assembly halls are used through the gratuitous service of the Chicago "Daily News." The illustrations of the exterior show that this building is faced with a light-colored pressed brick. The lines of the arches over the clubbed window openings and the wall copings are gracefully treated, and the entrances, while not so well han-

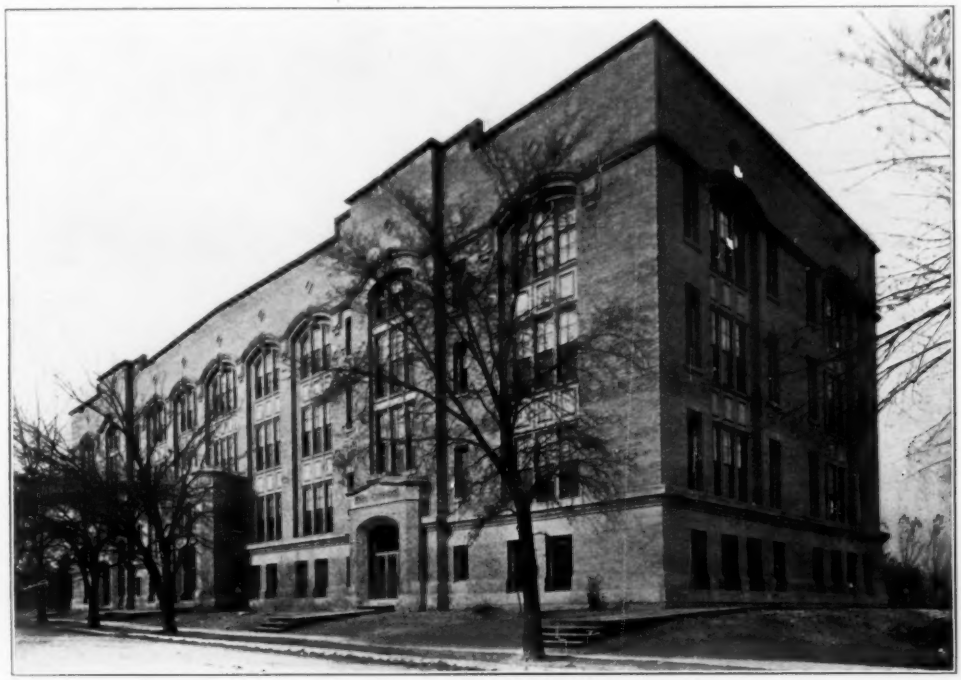


FIG. 12. STEPHEN K. HAYT ELEMENTARY SCHOOL.
Chicago, Ill. Dwight H. Perkins, Architect.

place the toilet rooms on all the floors, distributing them much as would be the case in a hotel. Here the toilet rooms are in separate buildings on the ground floor, connected with the play rooms, an old standing plan that should have been abandoned long ago. This building has an assembly hall which projects only half its length from the general line of the exterior walls. The back wall at the stage end is neither æsthetic nor good for acoustics. The only practical excuse for leaving it plain is that dled as those of the Moos School, a later creation, are not overloaded with ornament. The photograph was taken before the approaches had been attended to.

Another building of the flat-roof type is the George W. Tilton School, just completed in the westerly part of the city. It is shown in one exterior view (Fig. 15), and a view of the domed assembly hall (Fig. 16). This is a large building with a court in the center, where is located the assembly hall, of large seating capacity, with its gallery and

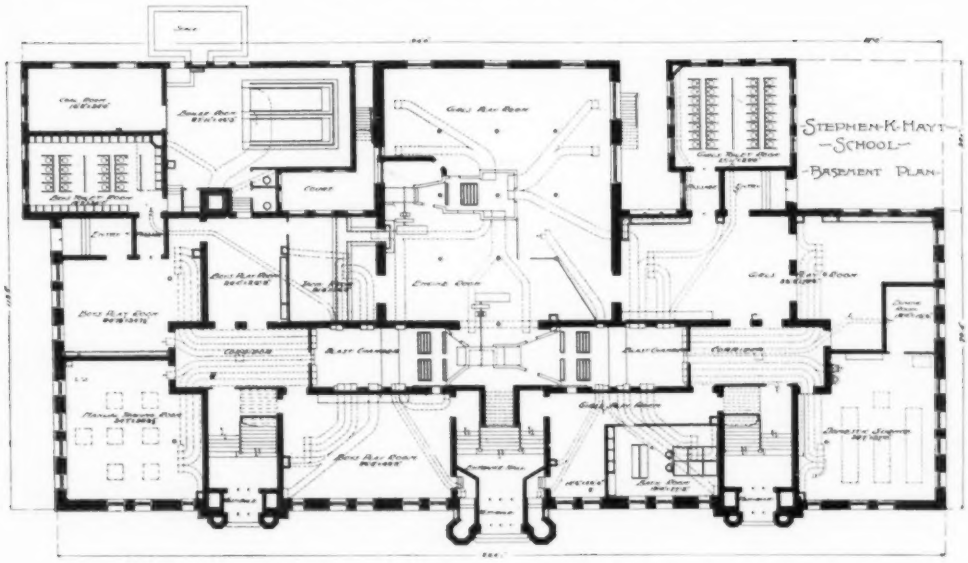


FIG. 13. STEPHEN K. HAYT SCHOOL.
Basement Plan.

high ceiling. The walls of the lower part of this hall are faced with tile in two colors, arranged in a simple pattern. Observe how the lines of the very plain gallery front are carried entirely around the back wall, and the ventilating registers in the soffits of the great arches serve the purpose of relieving their monotony. By placing them there it is admitted that there is no pretense that these arches are anything else than steel furrings covered with metal lathing and plaster. The exterior of this building is a study in brick of two colors. They are all Norman shape speckled buff pressed brick in two shades. The light buff bricks are laid with white mortar; the dark buff in brown mortar. All horizon-

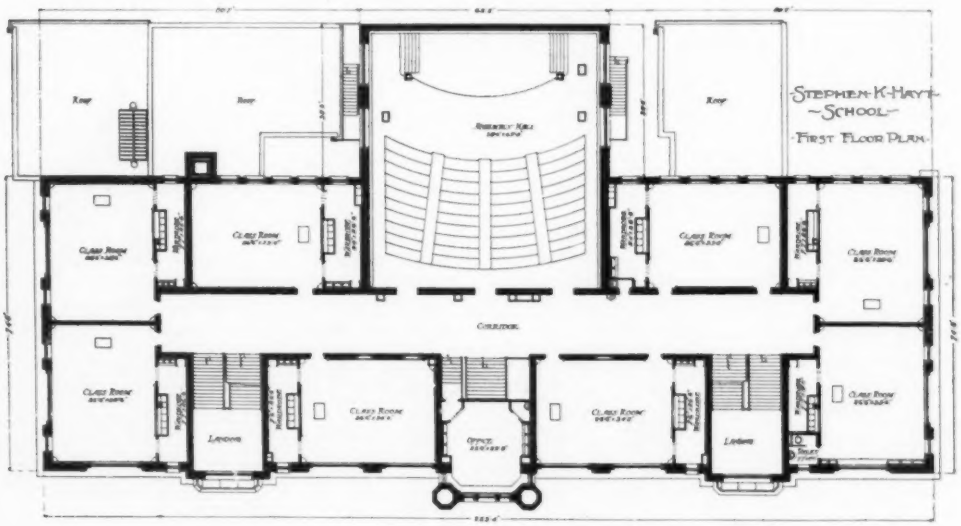


FIG. 14. STEPHEN K. HAYT SCHOOL.
First Floor Plan.

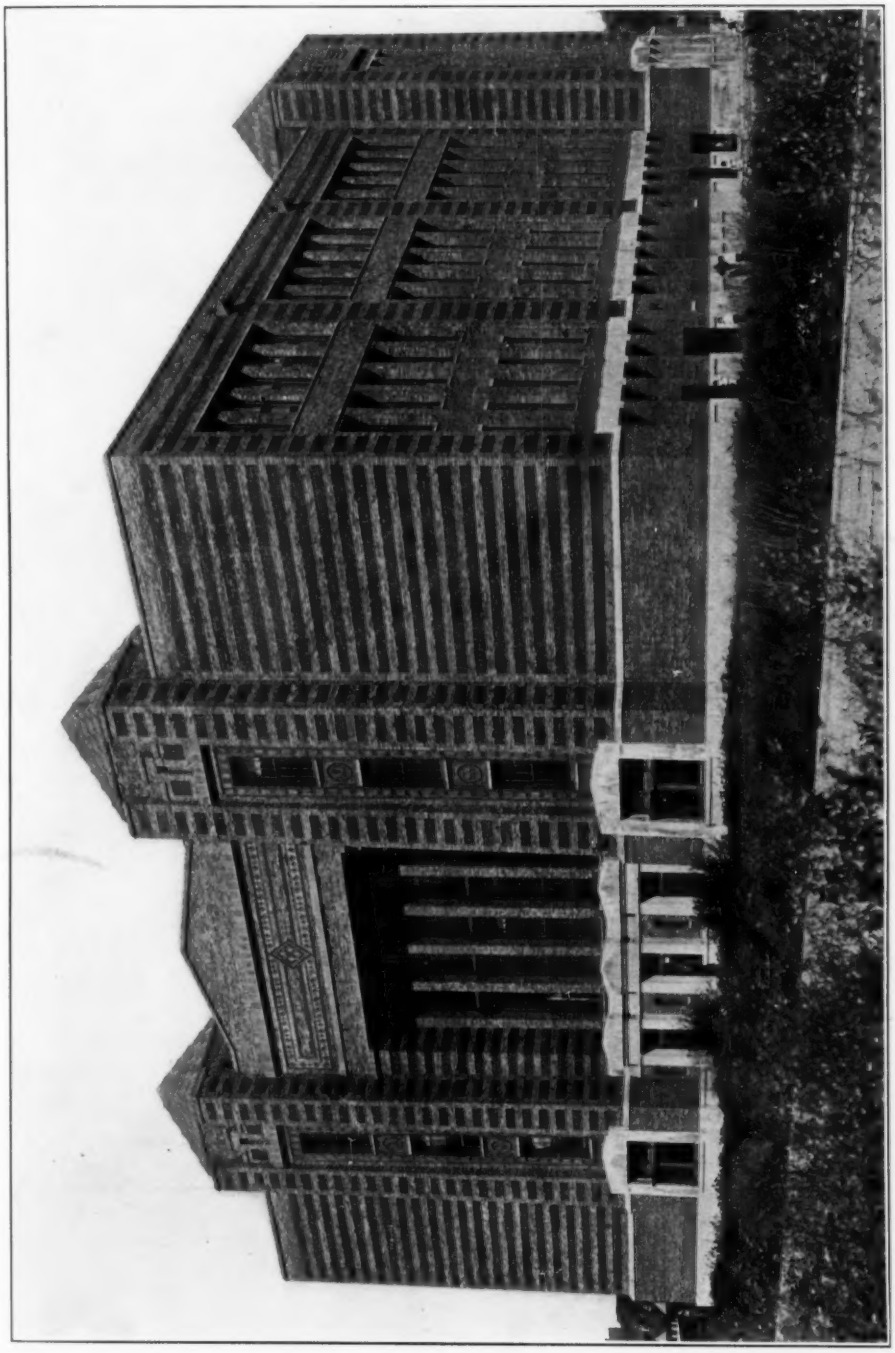


FIG. 15. FRONT VIEW—GEORGE W. TILTON SCHOOL. Dwight H. Perkins, Architect.

Chicago, Ill.

tal joints are one half inch thick and raked out one half inch deep. Vertical joints are close and struck flush. Here the sides of the class rooms, which are not allowed to have light except on one side, leave surfaces for a bold and simple decoration executed in these bricks of two shades, without any projection whatsoever. No stonework is allowed above the ground floor to spoil the effect of a solid mass of brick. Only terra cotta of the same color is used. The grounds, overgrown with the dry weeds of last summer, look very picturesque, as shown in the view. They will be more practicable as playgrounds, if not more beautiful, when the approach work is completed. This is the most successful of all Mr. Perkins' designs.

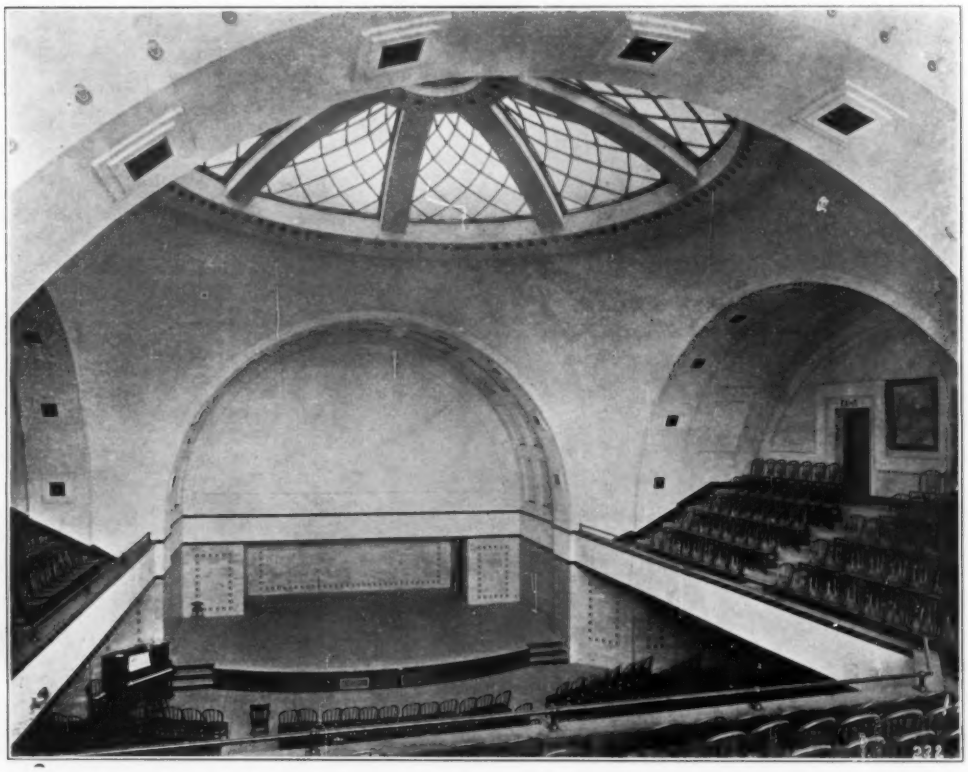


FIG. 16. ASSEMBLY HALL—GEORGE W. TILTON SCHOOL.
Chicago, Ill. Dwight H. Perkins, Architect.

Another building which is somewhat related to the Hayt School is the Friedrich Ludwig Jahn School (Fig. 17). This is of light-colored brick, and, what is unusual with Mr. Perkins' designs, has an overhanging roof. It must be noted that it is a tiled roof, and therefore the projecting eaves are logical. But there is much more to be observed about these eaves. The leader heads and copper leaders are connected with the gutters at every exterior angle of the roof; these are brought to the recessed angles of the walls, made expressly for them with curves, the grace of which is the result of a refined appreciation of the importance of small things. I said they enter recesses made for them, but a second look will show that the entire exterior walls are buttressed, and that the architect did not go out of his way to make channels at the angles of the walls, but that where the angle buttresses came together they left just the amount of room required for the leaders,

which then became integral parts of the architect's design. The echo of the tiled roof is seen in the hood over the central entrance, probably the teachers' entrance, for it will be observed that there are larger entrances on the ends of the building for the scholars. These are without the hoods. It will probably be remarked that this is the first of the examples thus far cited which show any carving. It is only seen at the tops of the buttresses and at the pylons on both sides of the entrances, and is similar in character throughout. It looks as though it were terra cotta, but I am not informed. Its presence here reminds us that we can approve and admire the designs of such an architect as Mr. Perkins without missing that ornament which so many regard as a necessary concomitant of beauty, and be quite unaware of it until we come across a slight suggestion of ornament.

The design of the William Penn School (Fig. 18) is to a certain extent related to that of the Jahn School, their plans being identical. Here we have the same tile roof with overhanging eaves and gutter. But the leaders to carry off the water are not in evidence. There is again an echo of the roof in the tiled porch at the main entrance. But both the eaves and the porch roof seem to be supported by wooden brackets, which are not only inconsistent with the dignity of a city school, but are combustible features of the exterior which should not be allowed on any schoolhouse. The clubbed windows on the main front in the recessed part are arched, but all the other clubbed windows have flat so-called arches. That is an inconsistency in design. It looks as if it were done for "variety." But the search for variety is at variance with rational design. There are no exterior buttresses, because the walls are thicker than in the building last considered. This building may be satisfactory practically, but cannot be praised æsthetically in all its parts. I am informed that this exterior was designed earlier than that of the Jahn School mentioned above, which is an evident improvement.

In the Rogers School (Figs. 19 and 20) we are reminded of the influence of some of Mr. Perkins' contemporaries. The first evidence of the emancipation of a few Chicago architects from the old conventional theories of design was seen in the determination to make the walls of the building, which perform the main function in their construction, assert their own dignity; to leave them blank where no windows were wanted, and to cease treating them as surfaces for the support of so-called ornament. This was the Roman way. But the Romans had only the coarsest materials out of which to construct their walls, and not the excellent bricks and stone of many kinds which we have in profusion. They needed architects only for their sacred temples; all other buildings of importance that they erected required only the services of engineers and decorators, the latter of whom covered up the engineers' work with surface ornament, mostly in imitation of the exterior designs of the architects, as seen in buildings more logical in design. This Rogers School shows what can be done on a building of supreme simplicity in design and carefully studied proportion in its various parts. If it is not an important work of art, it has at least preserved its dignity and purity, without having recourse for inspiration to the works of our ancestors.

The concluding illustrations show the Jesse Spalding School for Crippled Children (Figs. 21 and 22). This is a one-story building, as it should be, and without ornament. Most of the children are brought in omnibuses, which deliver them under a carriage porch at the main entrance. Those who go in self-propelled vehicles can ride directly into the play room, where they leave them, and from that enter their class rooms directly. They also have a dining room. The exterior suggests a large cottage, with brick walls and slated roof. Wooden eaves and barge boards may be excused in a one-story building like this. Economy also may have dictated the use of wood in the construction of the roof, there being no legal requirement that one-story buildings shall be fireproof. The building is less interesting for its architecture than for its solution of one

FIG. 17. FRONT VIEW—FRIEDRICH LUDWIG JAHN SCHOOL. Dwight H. Perkins, Architect.

Chicago, Ill.

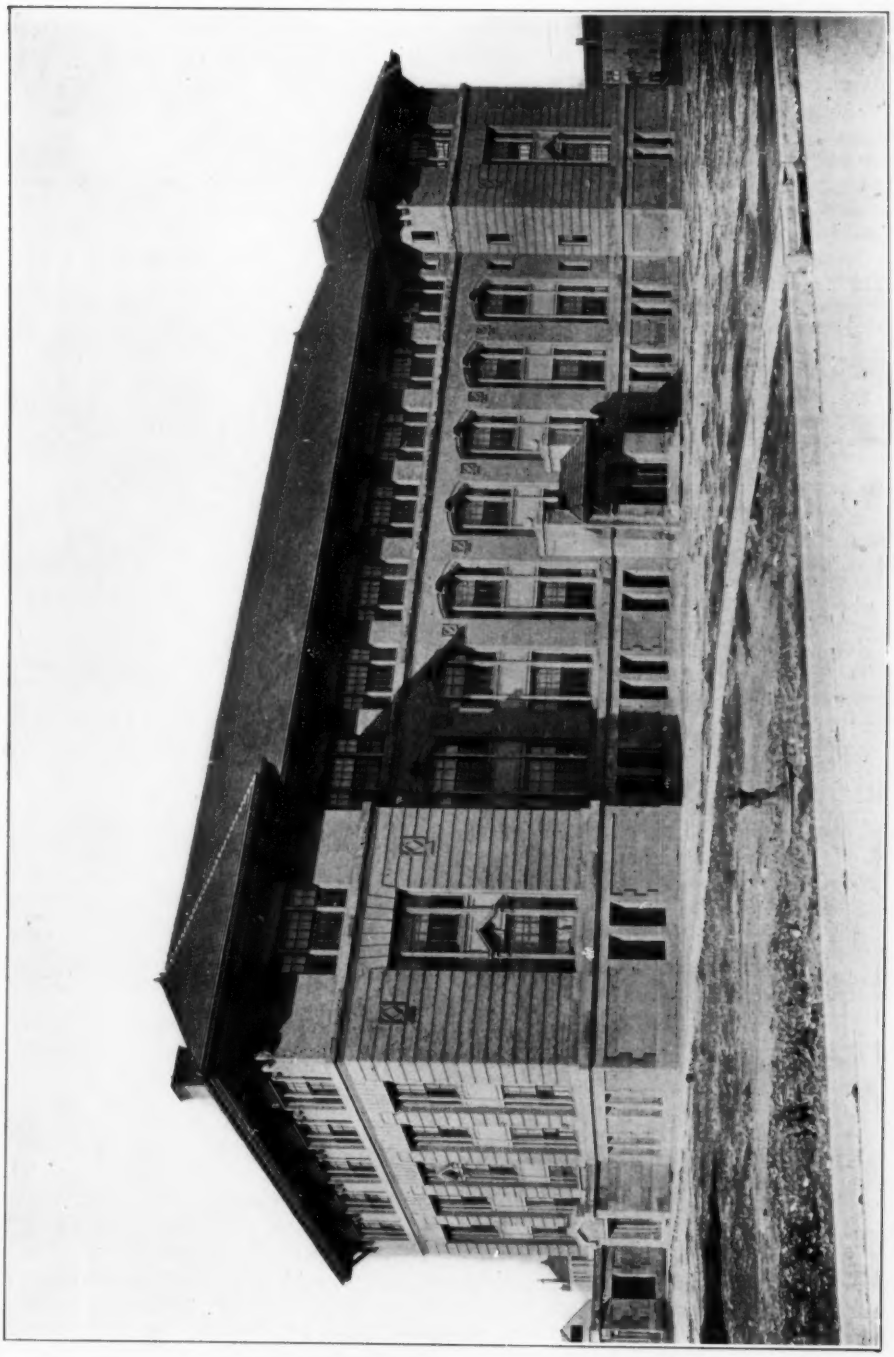


FIG. 18. FRONT VIEW—WM. PENN SCHOOL.

Dwight H. Perkins, Architect.

Chicago, Ill.

of the most recent problems in popular and universal education.

While these words are being written, Mr. Perkins is in the midst of a trial by the trial committee of the Board of Education of the City of Chicago, on charges of "incompetency, extravagance and insubordination." As no intelligent specifications covering these charges have been submitted, and such evidence as has been presented against him appears to be only gossip, hearsay and complaints of disgruntled subordinates, supported by anathemas fired at him and the trial committee by the president of the board, who is conducting the prosecution without any assistance, it seems hardly worth while to refer to it *in extenso*. The result will be known before these pages are printed. If what is here presented, being an illustration of only a very small part of the immense work of his office during the last five years, should form an element in his defense, it will be too late for it to have an effect upon its result. But there is a larger jury that it will reach, composed not only of those architects who are best competent to form an opinion of the merits of a confrere's work, but of a large and appreciative reading public. From this evidence they may be able to judge of his competence to carry out important work, in the face of the usual discouragements which always stand in the way of every conscientious public official. They will also be able to form an opinion as to whether or not these buildings give evidence of extravagance, bearing in mind, at the same time, that all of them have been approved in the plan stage by his financial superiors before their erection, and contracted out and paid for by the same parties with their eyes wide open. As for insubordination, the public does not need to know.

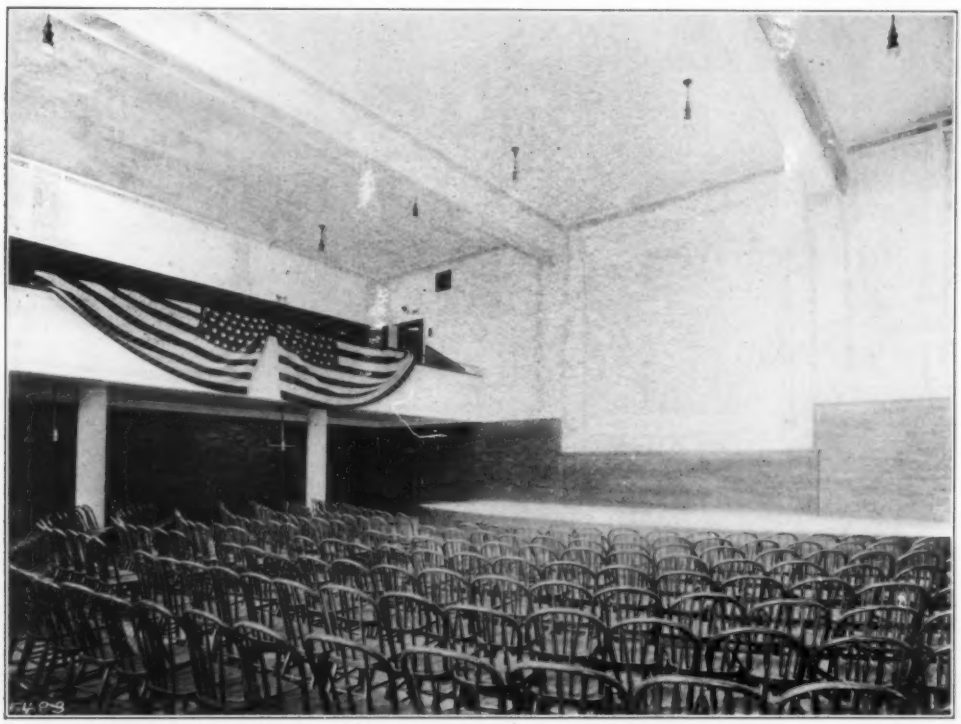


FIG. 19. ASSEMBLY HALL—ROGERS SCHOOL.
Chicago, Ill. Dwight H. Perkins, Architect.

for it is hard to say what constitutes insubordination in the conduct of a public servant who has too much dignity and self-respect to submit to foolish dictation by those who are accidentally, for the time being, higher than himself in authority, but infinitely beneath him in intelligence or gentlemanliness.

NOTE.—Since this article has been in print, Mr. Perkins has been found guilty of the last two of the three charges by a trial committee of four, one dissenting, the three others being physicians in their private calling. The decision has been approved by the Board of Education, only two members dissenting, and he has been dismissed. The other dissentees comprise every newspaper and periodical of good standing published in Chicago. practically all of the associations of a social, artistic, literary and altruistic character, and hundreds of thousands of public spirited citizens who have been interested in the proceedings.

Peter B. Wight.

FIG. 20. FRONT VIEW—ROGERS SCHOOL.

Chicago, Ill. Dwight H. Perkins, Architect.

FIG. 21. JESSE SPALDING SCHOOL FOR CRIPPLED CHILDREN.
Chicago, Ill. Dwight H. Perkins, Architect.

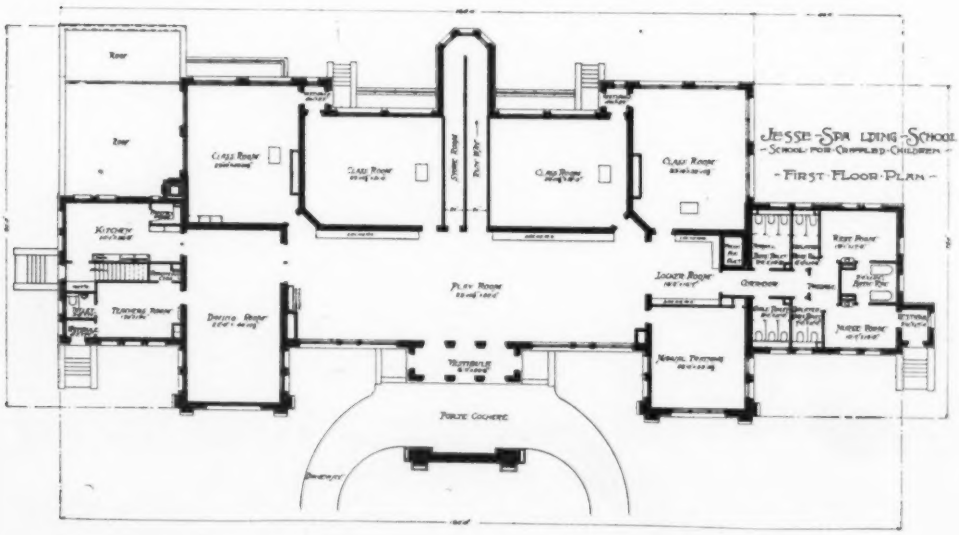


FIG. 22. JESSE SPALDING SCHOOL FOR CRIPPLED CHILDREN.
General Plan.

"UPLANDS"

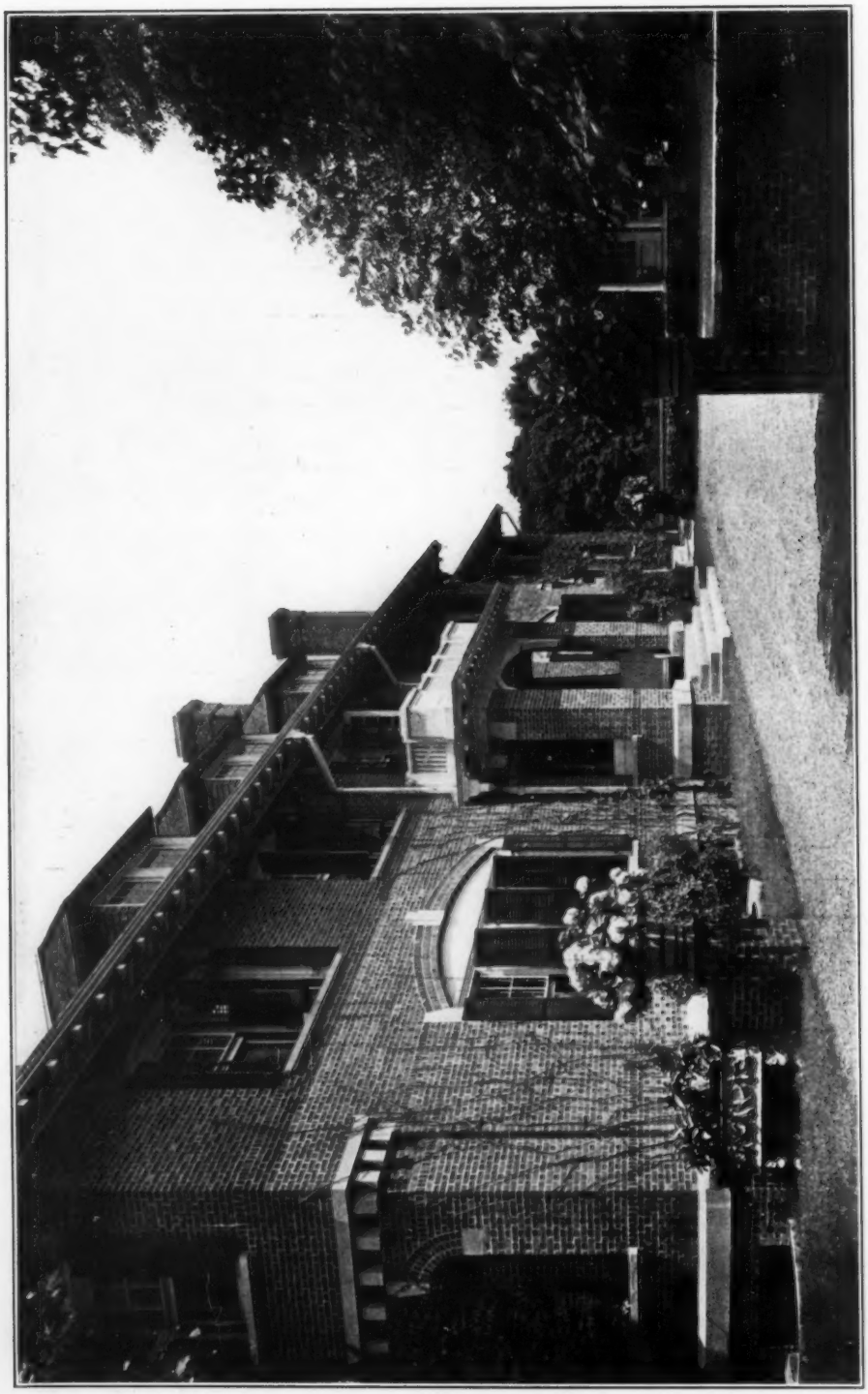
HOME OF

J. BORDEN HARRIMAN, Esq.

MT. KISCO, N. Y.

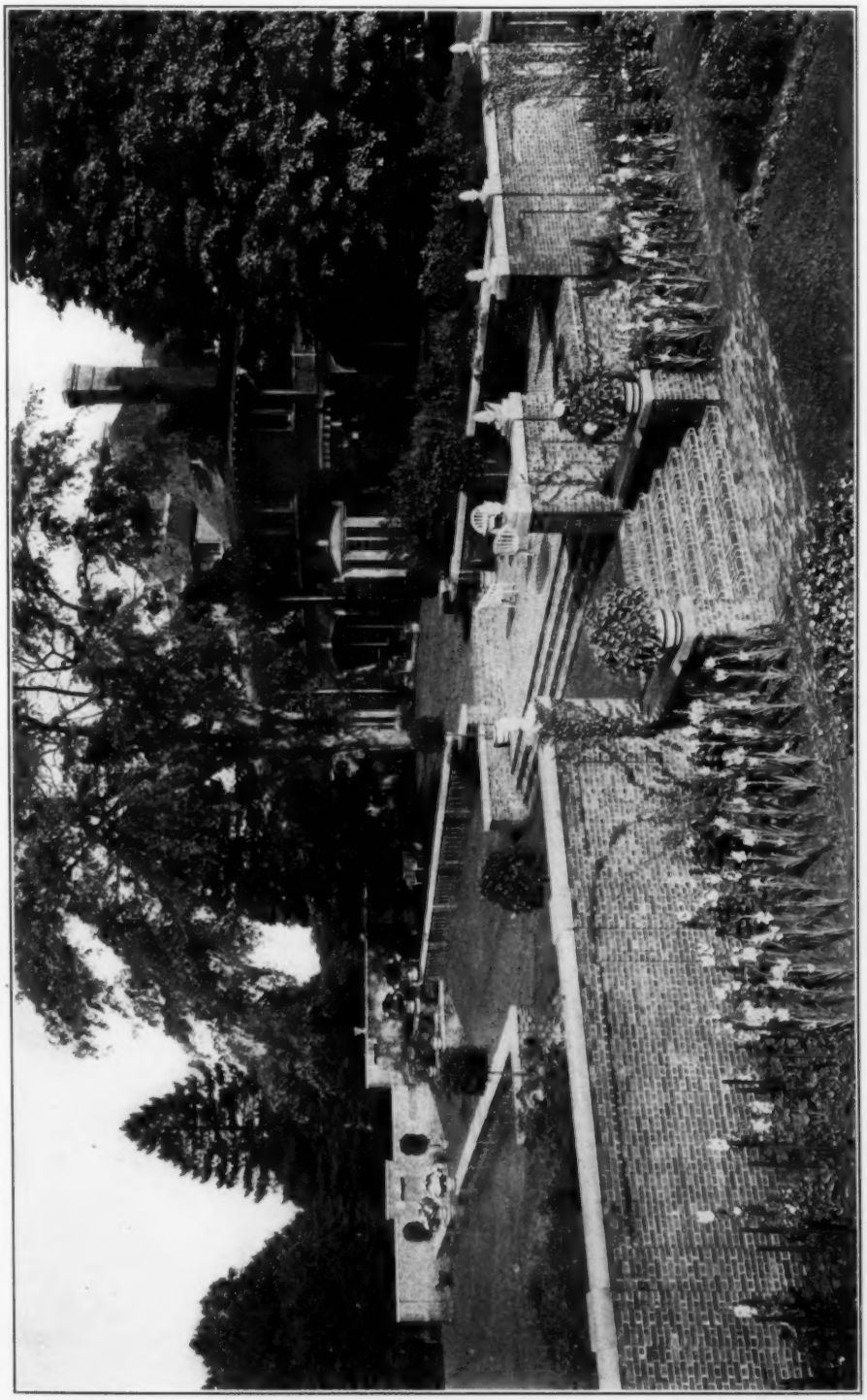
GUY LOWELL
Landscape Architect

ARCHITECTS { L. HENRY MORGAN
J. GALEN HOWARD
D. EVERETT WAID



HOUSE OF MR. J. BORDEN HARRIMAN.
Architects: L. Henry Morgan, J. G. Howard, D. E. Waid

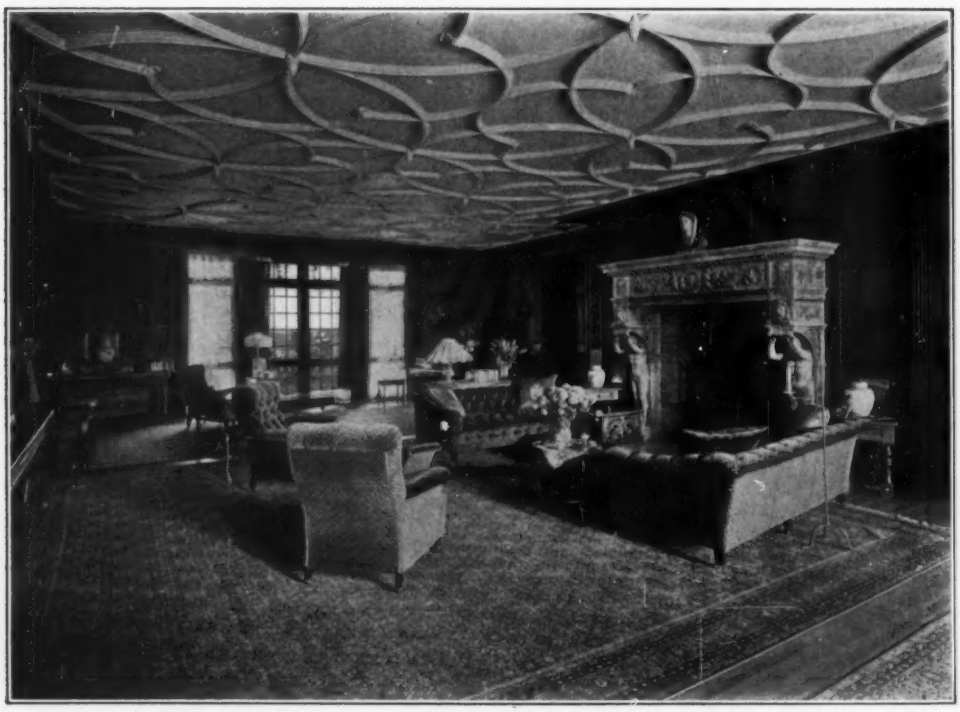
Mt. Kisco, N. Y.



TERRACE AND GARDEN—HOUSE OF MR. J. BORDEN HARRIMAN. Guy Lowell, Landscape Architect.

Mt. Kisco, N. Y.

ENTRANCE HALL—HOUSE OF MR. J. BORDEN HARRIMAN.
Mt. Kisco, N. Y. Architects: L. Henry Morgan, J. G. Howard, D. E. Waid.



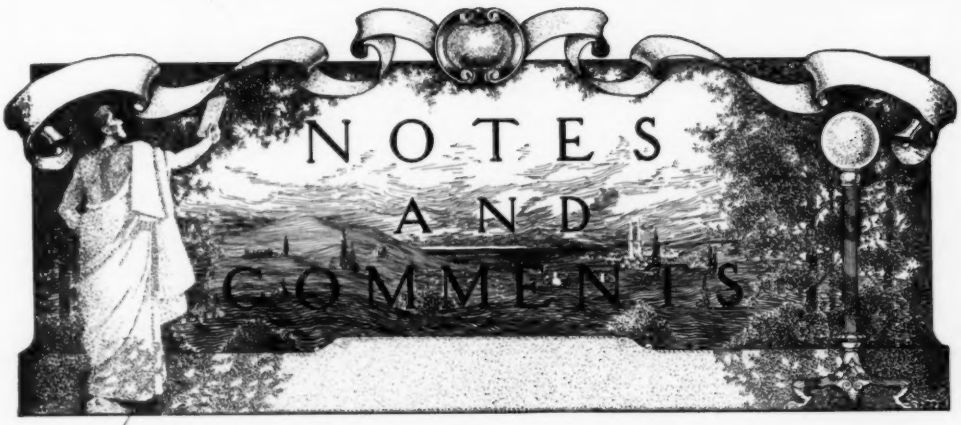
LIVING ROOM—HOUSE OF MR. J. BORDEN HARRIMAN.
Mt. Kisco, N. Y. Architects: L. Henry Morgan, J. G. Howard, D. E. Waid.

GARDEN—HOUSE OF MR. J. BORDEN HARRIMAN.
Mt. Kisco, N. Y. Guy Lowell, Landscape Architect.

GARDEN ENTRANCE—HOUSE OF MR. J. BORDEN HARRIMAN.
Mt. Kisco, N. Y. Guy Lowell, Landscape Architect.

THE PENNSYLVANIA RAILROAD STATION.

7th to 8th Avenue, 31st to 33d Street, N. Y. City. McKim, Mead & White, Architects.



The Pennsylvania's New York Station

It were useless and superfluous to advertise the new station of the Pennsylvania road. No project since the Chicago Fair has been more industriously and effectually "boomed." It would sadden the members of the Pennsylvania's Department of Publicity and Promotion to learn that there was any adult within the reach of the "system" who could read or even who could look at pictures and who did not already know that there was such a thing, and that it was such a big thing. Infinitesimal must be the basis for such a regret. It would not be exact to say that this thing was not done in a corner. In fact it was. The excavations and the edifications have been made in a neglected quarter of Manhattan which not one Manhattanite in a thousand has occasion to visit from year's end to year's end. That, in fact, from a civic point of view, is one of the interesting points about the undertaking, that it is a project of reclamation as well as of "réclame." One of our chief civic needs is that of multiplying and scattering "centres." To establish a new centre which shall serve to divert traffic from the old ones and relieve their congestion, which shall create or enhance values in a neglected and derelict neighborhood is a civic benefaction, even though the enterprise was entirely selfish on the part of its promoters. The successful establishment of a new centre pays for itself very speedily, in so great and growing a city as New York, in the "unearned increment" of the value of the surrounding land. The success of this establishment may be already assumed. The terminal and the post office together insure the creation of what may fairly be called a new city on the shore of the North River.

Doubtless this aspect of the improvement has been or will be dwelt upon sufficiently by the Pennsylvania's Press Bureau. It is only the strictly architectural aspects of the project that invite and indeed compel illustration and comment from an "Architectural Record." Probably no larger and costlier building than the station has been under construction concurrently with it. Certainly no larger. There are other buildings of greater cubical contents contemporaneous with this, notably the Metropolitan Life in New York, and very many superior in altitude have been going on at the same time. In fact it is the lowest big building of recent years, only the New York Public Library, of buildings in the same city, having so little height in proportion to its area. But the area of the station is enormous. The frontage, from Seventh to Eighth Avenue, is almost exactly the same as that of the Capitol of the United States, including the wings. There is nothing in New York anywhere near as long, excepting the front of the Museum of Natural History, which one supposes to be about the same. The Metropolitan Life, indeed, occupies a block front each way. But the block from Madison to Fourth is, of course, only half a "long block," half the distance from Fourth to Fifth Aves., the other half being occupied by Madison Square, whereas the new station occupies the whole space from Seventh Avenue to Eighth. And the other dimension is equally exceptional. The closing of Thirty-second street west of Seventh Avenue gives the shorter fronts the

unequalled length of 430 feet. The area is thus not far from 300,000 square feet, half as much again as that of St. Peter's, nearly three times that of Milan. Doubtless we are dealing with a "big thing." To find an American building of as great area as the new station, we should have to recur to the temporary and occasional architecture of the fairs of Chicago and St. Louis.

The lowness is of course an architectural advantage in the sense and in the degree that it emphasizes the horizontal extent of these walls. Excepting the emergence of the roof of the great concourse at the centre in what is virtually a sort of transept, though it is not carried out to the street-fronts, the enormous spread of the structure has a height of only three moderate stories and a moderate attic. The level line of the cornice, unbroken except by the moderate projection of the portico at the centre of each front, stretches away interminably to an undeniably impressive effect which might, it seems, have been enhanced by a more pronounced and emphatic base-moulding. Everything, indeed, concurred to enable the architects to emphasize this "horizontal extension" which, according to Freeman, is the character of "classic" as vertical extension is of Gothic, and as "rest," or immobility, is of Romanesque. No doubt the classic effect is attained, especially in the most elaborated and "important" front, the Eastern, which contains the main entrance, and carries a colonnade along its whole extent—

> As where, from Pluto's garden Palatine
> Mulciber's columns gleam in far piazzian line.

Another adventitious advantage, especially for a strictly classic treatment, the architects had in the comparative blankness of the walls, at least of the most conspicuous walls. An American architect in the days of the old Greek revival incurred some just enough ridicule by saying that modern architecture would not be so difficult if it were not for the windows. In other words, if men would be content to live and do business behind blank walls, their claims would not conflict with those of the buildings which they foolishly imagined to be meant for their accommodation, holding that architecture was made for man, not man for architecture. Of course the retort upon the foolish architect was obvious that if classic architecture did not allow for the admission of necessary light, it was his business to find or make some architecture that did. All the same, the foolish man was right enough from his point of view. In the Greek and Greco-Roman templar architecture, the portico, the colonnade, which is to say the architecture, was relieved against the absolutely blank wall of the cella, and doubtless it was much more effective with that relief than with any form of opening whatsoever in the intercolumniations. When the Romans undertook "miscere utile dulci," to unite the practically necessary with the architecturally agreeable, they used the order which was the entire construction of the temple as a kind of trellis to overlay a construction of arches, so that the Roman building involved a contradiction which was never reconciled until what Freeman calls "the classical or transitional Roman" had ceased for some centuries to be built. Even now, an architect who starts out to make his architecture out of the "orders" is very lucky if he can ignore the openings and produce a building

> Where the blank windows blind the wall
> From pedestal to pedestal.

That good luck has befallen the architects of the Pennsylvania station in unusual measure. It results from the lowness, the perspective shows, that the interiors can almost all, or almost all on the conspicuous and "architecturesque" fronts, be lighted from above, or from courts, and that the walls can be treated as mere backgrounds or foils for the colonnade. That is conspicuously the case on the principal or eastern front. And nearly half way down the side, or until you come to the central portico of the entrance, the order, here subdued from columns to pilasters, is relieved against a wall virtually blank, to the great enhancement of the architectural effect. The western front is apparently the "business end" of the structure. It accordingly contains four tiers of practicable windows. The architects have hardly attempted to bestow more abundant comeliness upon these more uncomely parts. They have simply carried through the order, in the form of pilasters, and made the openings mere rectangular holes, not "treated" architecturally at all, but recognized perforce as an ugly necessity. This, you will observe, is precisely the method adopted in the public architecture of Washington, in the Treasury and the Patent Office, by the Greek revivalists of half a century ago. It is hard to see what better could be done, given the primary commitment to strictly classic architecture. It is true that one cannot exactly see a Greek architect resorting to such a confession of impotency. But still less can one see a Greek architect resorting to the hybrid construction of the Imperial Romans. If not what a Greek architect would have done, it is exactly what Isaiah Rogers and Thomas U. Walter and Robert Mills and Ammi B.

Young would have done, if they had had all this money to spend and all these dimensions over which to spread themselves. It is what they would have done for it, it is what they did. In fact the exterior of the Pennsylvania station, with one notable exception, is what would have been done in this country seventy years ago. It has no trace of the later inculcations of the Beaux Arts. There is no more taint of "modernism" about it than about a Papal allocution. This must not be taken as dispraise of the architecture. Quite the contrary. Given Greek architecture, the absence of anything "smart" or modish, or modern, is an advantage as an adherence to the type that has "pleased many and pleased long."

Doubtless the structure has the defects of its qualities, and also of its conditions. The lowness, the massiveness, the solidity and the blankness make for gloom as well as for dignity. The poet may be right in saying that

Stone walls do not a prison make.

But these stone walls do. A stranger set down before this Seventh Avenue front, out of sight of the emerging mass at the centre, and told to guess what it was all about, would be apt to guess it a good substantial jail, a place of detention and punishment of which the inmates were not intended to have a good time. The simplicity of arrangement and detail furthers this impression. The plain unfluted Roman Doric of the order, of which this is an impressive example, is the most "serious" of the orders, as serious as the Greek Doric in the modern, not the Greek use, in which it is not relieved and enlivened by sculpture or by color, and more so than the sprightly Corinthian, or even than the Ionic, of which the voluted capital has an interest in itself to which the Roman derivative Doric does not pretend. The carving of the porticoes, excellent as it is in adjustment in scale and in execution, by no means suffices to relieve the sadness of the interminable fronts. The architecture raises one or two questions which it does not answer. Why should the central intercolumniations of the porticoes be wider than the others? And particularly why should the otherwise unbroken horizontality of the design be subjected to the single exception of the projected pediments of the terminal pavilions on the Seventh Avenue front, when the pediment does not reappear at the centre, nor on the sides of the same pavilions, nor anywhere else throughout the vast structure? It has undoubtedly an anomalous air. If it be meant to denote and signalize the corridor to which the portals under the pediment give access, it is manifest that this purpose would be equally secured by a reduced reproduction of the central portico, in the same plane with it, and like it crowned with a pedestal instead of a pediment, relieved against the flat attic. If it be an attempt to enliven the architecture, and to relieve it of monotony, the attempt has plainly miscarried. And in fact, the monotony of the building, the interminable sequence of "magnitude, uniformity and succession" is not only connected with its artistic quality, but is its artistic quality. It seems a mistake to have disturbed it, most of all to have disturbed it in one solitary instance. For the impressiveness of the building is very great. Whatever abatements and qualifications we may be moved to make, it is securely one of our public possessions, and liberal owners and sensitive and skilful designers are entitled to the public gratitude for so great and grave an example of classic architecture.

Much of the interior work is of the same grave and simple character as the exterior, and here we may perhaps expect that, in the fulness of time, the gravity and simplicity will be relieved, without being disturbed, by mural decoration. The tympana in the loggia of the entrance seem to have been reserved expressly for such an enrichment. One may walk for long distances in the interior, as he may inspect the entire exterior, without once being reminded that "we live in times unknown to the ancients." The most emphatic recognition of that fact is in the treatment of the great hall, or "concourse," both inside and out. "Modernism" and Gallicism are unmistakably indicated from the outside by the emerging mass of the transverse roof, with the three heavily mullioned arches, each decorated with a protruding keystone, and covered with its own low gable. Within, an enormous and lofty shed of iron and glass is an architectural feature for which no classic precedent exists, since no Greek architect or Roman engineer ever had occasion to treat such a construction. Originality, or at least modernism, is here enforced. The architectural treatment is constructional and straightforward, with as much, perhaps, as the case admits, of the gravity and simplicity of the abundantly precedented design of the exterior, but with necessarily much less of the impressiveness of massiveness, and of the monotony which the massiveness here entails. But of the design, classic or modern, in masonry or metal, one has to own that its dignity everywhere escapes frivolity. In the language of Mr. Edmund Sparkler, there is no nonsense about it.

PLANNING PARK BRIDGES

It is much to be regretted that the architectural competition lately conducted by the Minneapolis Park Board, for bridges of artistic design to be constructed in half a dozen designated park locations, did not prove more successful. Three prizes were offered, of $800, $500, and $200 respectively, and something over a score of far-scattered architects competed. The first prize was awarded to Messrs. H. Lincoln Rogers and Guy Vroman of New York, the second to Messrs. William Pierce Cowles, C. E., and Cecil Bayless, architect, of Minneapolis. No third prize was awarded, but the design of Frederick Bigelow of Newark, N. J., was purchased. The general average of the designs is described as not as good as anticipated, and while the estimates that accompanied them were within the designated limits, the actual bids for construction, when these were called for, exceeded the estimates by 50 to 100 per cent. Nor was this the sum of the disappointments. The specifications called for separate bids on granite and Bedford stone, and the bids for the former proving in all cases double those for the latter put the granite absolutely out of reach of the appropriation. And then a considerable number of architects, engineers and contractors came forward with the warning that in the Minneapolis climate Bedford stone of even the best quality would quickly disintegrate if used in bridges over water. Other experts opposed this contention, but at least a discouraging doubt was cast over the matter. The suggestion was made that concrete be used. On this point Theodore Wirth, the superintendent of the parks, came out with some very sensible ideas. "If concrete bridges are to be built," said he, "then the designs should be of the simplest possible character. The ornamentation which may be attractive and artistic in stonework is offensive, and a deceptive imitation only, if moulded in concrete. Concrete bridges should show graceful and pleasing lines, should be true in character in their construction, and should have modesty and simplicity of design their dominating feature." Many concrete bridges have been built in the parks and private estates of this country following out Mr. Wirth's ideas. Some specially graceful and simple spans have been constructed, and concrete again shows its adaptability to this kind of structure. We sincerely trust that where the cost makes the finer stones prohibitive this material may make the bridges possible. If the competition had proved the general and practical success which was desired, other park commissions would have been tempted to follow the example.

AVIATION AND CITY PLANNING

The influence of aeronautics on City Building was the unique subject of a paper read at the thirty-eighth annual meeting of Philadelphia's Fairmount Park Art association, and now published in the current annual report. The address was delivered by George Oakley Totten, Jr., A. A. I. A., "That aeronautics will give to the aerial traveler a perfect and comprehensive view of the entire city must prove," he claimed, "an enormous stimulus to all plans for improvement in city building. The perfection of these plans will now be seen more fully than their originators could have hoped." "Think what it will be," he exclaimed at another point in the address, "to see the famous cities of Europe as the aviator will view them, looking at them from the sky and not from the streets; to pass above Rome and to have below us the wonderful picture of its historic palaces, its domes and temples, and the course of the Tiber crossed with its arched bridges; to see Taormino, with its ruins of columns and arches, the great stones of its theatre scattered on the ground; to visit in this way Venice and Florence and Naples; to see how the great cathedral of Strasburg lifts itself in solitary majesty above the rest of the city; to see perfectly the whole plan of the Tuileries Gardens and the Trocadero . . . to be above the gardens of Charles V. at Seville, and above the Alhambra." Aeronautics, he felt sure, would give rise to a new series of architctural problems. He noted that houses for dirigible balloons have already been built in practically all civilized countries, and said, "there is no reason why these hangars should not be architectural and beautiful in treatment. The simple conditions for such buildings are artistic." Hangar, it should possibly be explained for those who want to practice designing them, is our latest imported word. It is the balloon barn, or the garage of the aeroplane. The speaker named as Philadelphia structures that had roofs suitable to serve as landing places for aeroplanes the North American, Wanamaker and Land Title buildings. He added: "The Bellevue-Stratford has a beautiful roof garden and undoubtedly in the future will have a landing platform for the use of aerial travelers. Aeronautics," he continued, "will make necessary some system of landmarks

and special charts, distinctive marks by day and lights by night, with corresponding marks on the aviator's charts. It has been suggested that the street lights in the different cities might vary in color, and the name of the city be marked in some way upon a roof or platform. . . . It has been suggested that floating aerial hotels may be anchored over our cities during the heated nights, and that aerial theatres may float in the cool of the upper currents of the air."

PRESTIGE

It has been the writer's privilege to hear much discussion among architects about the necessity of the strictest observance of the code of ethics of the Institute to promote the prestige of the profession. Many have been the complaints that its functions are being usurped by various building trades which need to be shown their places. The writer admits the wisdom of a high standard of professional ethics and joins the architects in deploring the usurpation of their functions but, would like to ask what they are doing to command that prestige which they regard as rightfully theirs.

"*Tempora mutantur.*" Never was this trite saying truer than in its application to the practice of architecture in these days so fruitful of universal progress. The architect of the twentieth century cannot expect to be taken seriously if he persists in regarding himself and his mission through the eyes of a glorious past. There is a glorious present and a still more glorious future for him if he will but realize the conditions of the times and accommodate himself thereto. The ages of intellectual idealism, of conquest, strife and war are gone and the present is an epoch of universal peace with its attendant commercial prosperity. In that prosperity there is room for the architect but he must win his position by clean-cut business methods if he is to be respected and rewarded as he would wish. Has he yet made a consistent fight for his position? Surely not, else, why should he be so often doubted and misunderstood? Does the layman to-day appreciate the aims of the architect and does the architect, as a solid organization, go out of his way to make himself intelligible. In the first place, the architect does not possess a solid organization. True, there are many architectural associations; but how successful are they in promoting the interests of architects at large in the business community? Has the architectural profession in this country to-day a headquarters in the center of business activity where vital and up-to-date information is to be had? If there is anything of which it stands in urgent need it is certainly such a headquarters conducted on the most rigid business principles by the most competent of managements. The architects need a campaign headquarters or several of them and they need them now. There should be at disposal the best library of professional and commercial literature obtainable and ever supplemented by the thousand and one technical matters which constantly make their appearance. Then, having such an organization it should be kept at work promoting the interests of the profession, by the most approved methods of publicity.

Only then will the public take architecture seriously, because it will be convinced that the architect is a live business man of to-day.

PROPOSED HAWTHORNE MEMORIAL

At last, nearly half a century after his death, there is an earnest and persistent movement on foot in Salem, Mass., to erect a worthy memorial to Nathaniel Hawthorne, the city's most distinguished son. The movement seems to have been started by the Salem Civic League, which is a considerable power in the community. For nearly a year a committee of the organization has been quietly working on the matter, and a design has been made by Bela L. Pratt and Clipston R. Sturgis, working in collaboration. The design is of exceptional interest. The architectural part represents one of the old Salem doorways. One is supposed to be looking through this into an old fashioned garden, a portion of the wall of which forms a background for the figure of a Puritan maiden. Beyond the wall, in the shadow made by the foliage of the overhanging trees, are the wraith-like head and shoulders of a figure which might be called the Spirit of Romance. It is proposed to meet the considerable cost of the memorial by public subscription—which will not be confined to Salem.

ARCHITECT'S DREAM OF ATLANTA

Haralson Bleckley, a well known architect in Atlanta, Georgia, has set that city agog by a plan to bridge the railroads, where they pass through the heart of Atlanta, placing over them a series of boulevards and gardens. The distance would be about a quarter of a mile, and the width from 100 to 300 feet.

The whole improvement, while spanning the railroads and roofing over "the sewer of smoke"—much as Park avenue covers the New York Central tracks in New York—would be on a level with Forsyth street, Broad and Whitehall, just as the viaduct bridges now are. It would also be flush against the buildings all the way, so that they would appear to be built upon it. The plans contemplate the erection, at the extreme western end, just beyond Forsyth street, of a French renaissance structure, of no great height, that should contain gymnasiums, baths, etc. This would be a municipal provision. From Forsyth to Pryor streets would stretch the park, with lawns, flowers, and fountains, and on either side driveways and sidewalks. Over the present site of the Union Station, Pryor street to Central avenue, the plan contemplates the erection of a magnificent skyscraping structure, that should be a Union Station, city hall and office building all in one. Beyond this great building, which would represent the center of Atlanta, the park is to be continued to Washington street. Various organizations and citizens have endorsed the project and the Atlanta Journal has devoted many pages to it. A double leaded editorial, two columns wide, refers to it, in the caption, as "a brilliant and feasible plan." At least, it is interesting evidence that all the great civic dreams are not in the North.

REPLANNING A FAMOUS SQUARE

"The American City" gives a brief but interesting account of the plan for remodelling the Theaterplatz at Dresden. The rebuilding of the Augustus Bridge has given the opportunity to bring the bridge into direct relation with the square. By moving it only thirty or forty yards down stream, bridge traffic could be conducted directly upon the square, and the congestion relieved in the space between the castle, the court church and the building of the Saxon Diet. But opposed to this change was the fear that with its radical alteration of a famous old city picture there would pass out of the city's life a picturesque quality and a certain fitness in entering the Altstadt through the King George gateway. So the new bridge is to follow the line of the old one, and the modernizers are compelled to be content with a rearrangement of the square as a problem by itself. Says "The American City": "Two architectural contests brought no satisfactory results, and after a large number of architects had volunteered plans, City Building Inspector Erlwein came forward with one of his own, which was approved by an art commission composed of architects of the highest rank." When objections to the plan were brought before the city councillors, a public announcement was issued, signed by eleven distinguished German artists, expressing approval of the Erlwein plan and recommending its adoption. The plan involves a distribution of terraces, steps and clumps of trees along the shore line, so placed as to heighten the impressiveness of church, square and bridge. The part of the shore which slopes from the head of the bridge toward the Hotel Bellevue is to be bordered by terrace-like parapets, and a broad flight of steps will have at once practical utility, in giving access to the river, and aesthetic value in uniting river and square in a single picture. Helbig's restaurant, the so-called "Italian village," is to be replaced by another building, between which and the stairway will be a terrace-garden. The new building is made lower than the present structure, so emphasizing the dignity of the palace, the court church, the Zwinger, the museum and opera house, which inevitably are measured by it. Dr. Robert Bruck of Dresden, writing in "Der Städtebau," praises the design very highly. "Restraint," says he, "shows the hand of the master. Entering the square from the bridge, one finds at each new step a charming change of aspect, first one and then another of the magnificent new buildings coming fully into view amidst its beautiful surroundings." And the great charm and virtue of the plan, he says, is that for all its aesthetic merit, it satisfies the demands and conditions of the present time—of a time wnen the square has ceased to be a pleasure garden or merely an open plaza in front of the opera house, and has become a traffic center.

An additional heading in the Index of "Sweets" should read, "Hinges, Invisible." Under this will come the name, Soss Mfg. Co., pages 598-599. Users of Sweets will please make note of this on the margin of page XXXVII. in the index.

In publishing the work of N. Le Brun and Sons in the May issue of The Architectural Record credit was given that firm for the "Extension of the Fire Dept. Headquarters on 68th St., New York City." Mr. Le Brun wishes to correct this as he was not responsible for the design of the extension.

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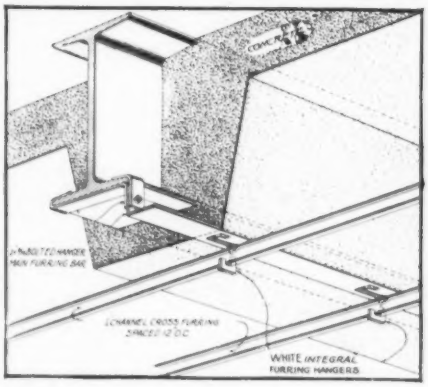
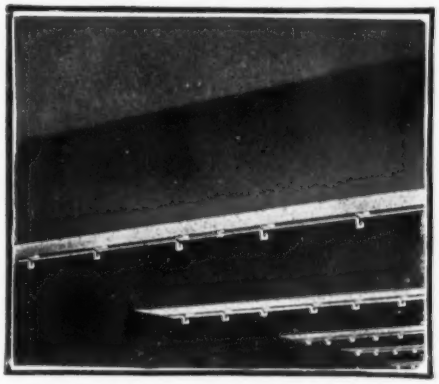


SECTION of concrete arch showing how WHITE INTEGRAL FURRING HANGERS support ceiling cross-furring bars.



DETAIL of concrete beams showing regular spacing of WHITE INTEGRAL FURRING HANGERS.

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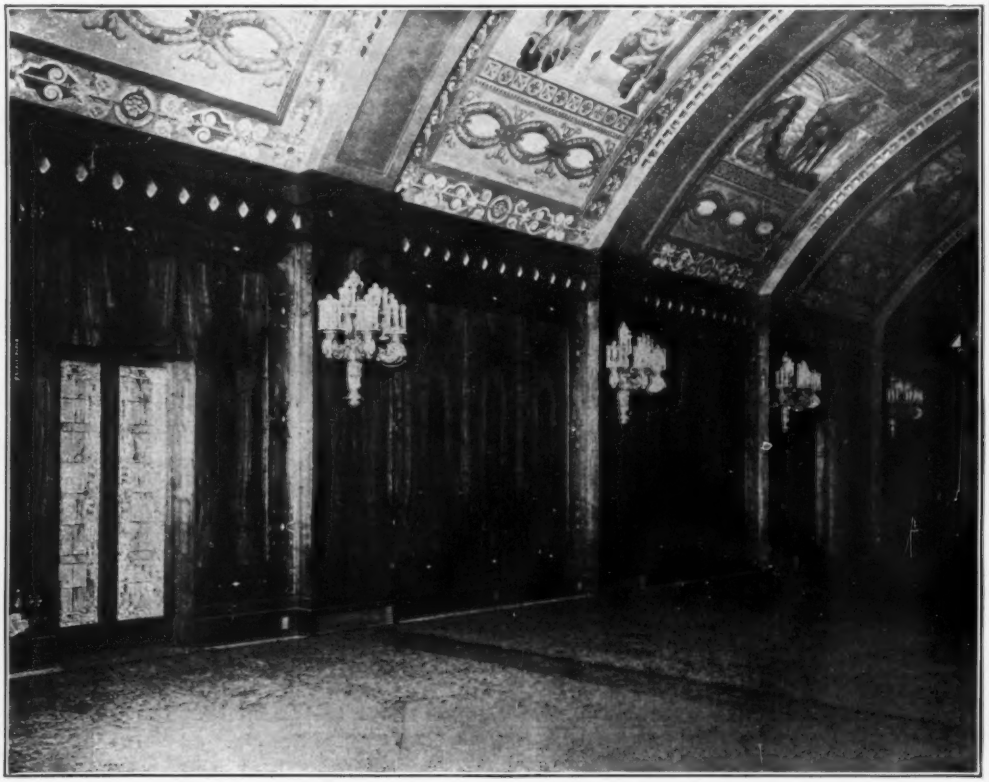

ITALIAN ROOM OR NEW BANQUET HALL IN THE AUDITORIUM ANNEX, CHICAGO

Wainscoted 15 feet high in Circassian Walnut. From the woodworker's standpoint, the feature of the cabinet work in this room is not only the highly figured veneers, but the extreme length of same. There is no horizontal matching in the panels or on the pilasters. Circassian Walnut usually comes in lengths from seven to nine feet, but in this case highly figured veneers were obtained for this room from 13 to 14 feet long.

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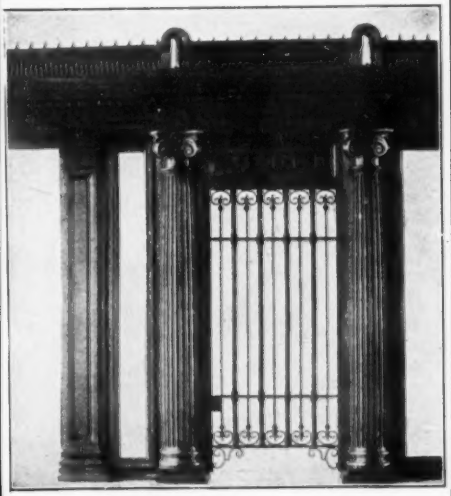

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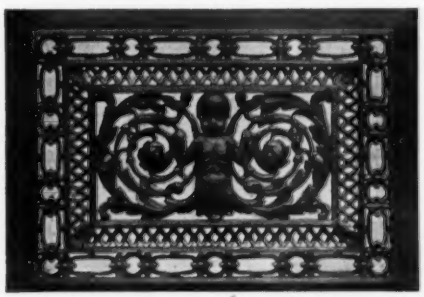

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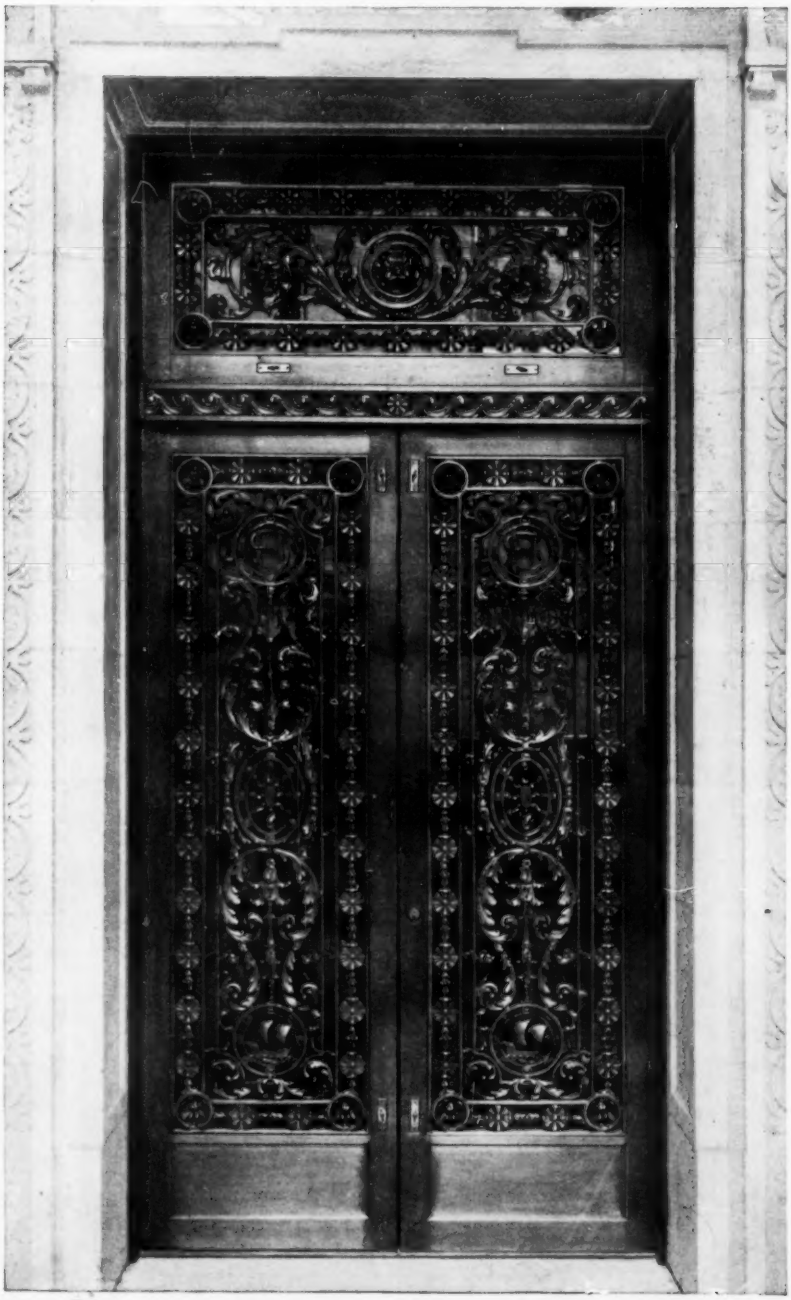

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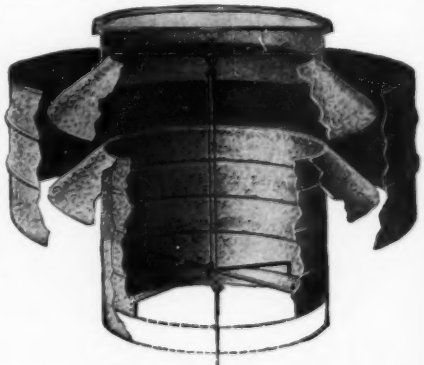

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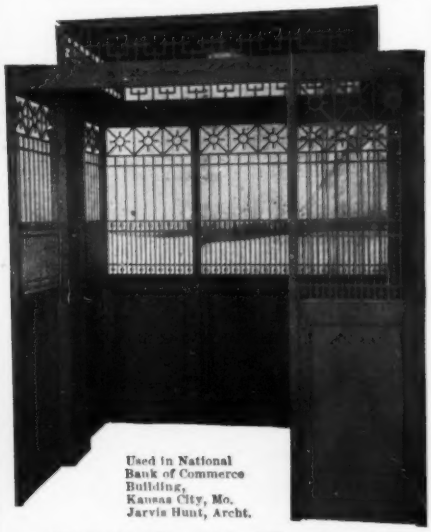

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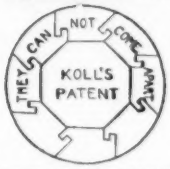

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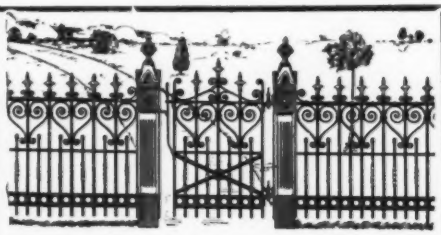

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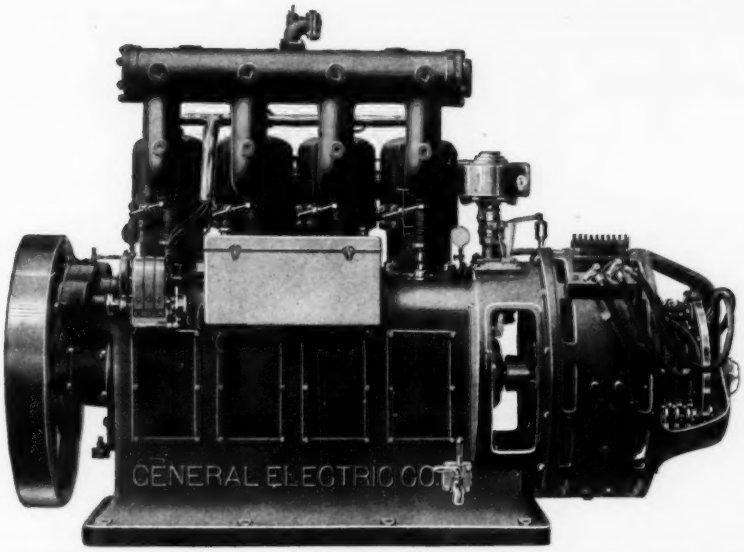

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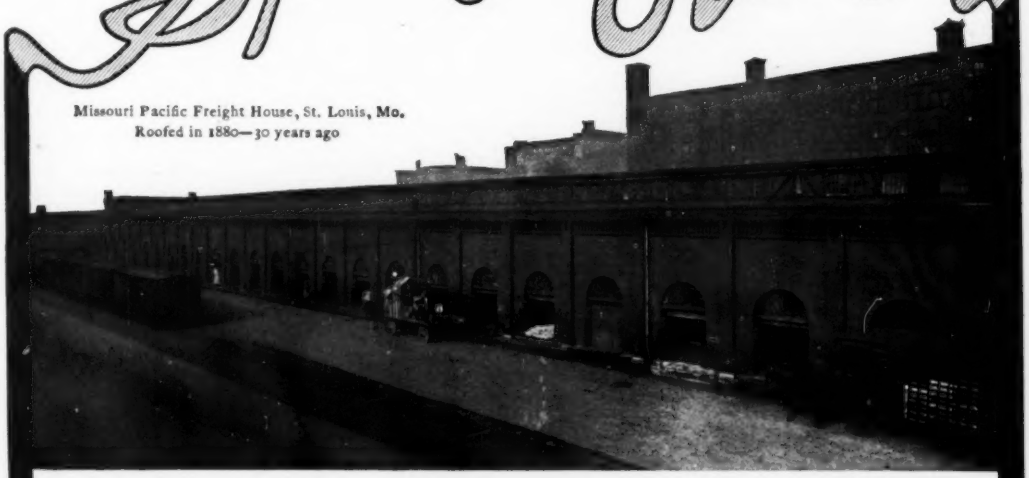

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Window Corner Posts.
Detroit Show Case Co., 477 West Fort St., Detroit, Mich.
Window Sash and Frames.
Detroit Steel Products Co., Detroit, Mich.
Windows (Prism).
American Luxfer Prism Co., 507-509 West Broadway, N. Y. C.; Chicago, Ill.
Windmills.
A. J. Corcoran, Inc., 11 John St., N. Y. C.
Wire Work.
Estey Wire Works Co., 59 Fulton St., N. Y. C.
Wood Preservative.
Samuel Cabot, 141 Milk St., Boston, Mass.
Woodworking.
H. W. Palen's Sons, 1 Madison Ave., N. Y. C.

Gimbel Building

THE importance of perfect insulation of cold storage vaults is fully understood. We call your attention to the one recently installed in the new Gimbel Building, New York City. All cement used on and between the walls, ceiling columns, etc., to insure the most perfect damp-resisting surfaces, was treated with **"Lapadas" Compound** throughout. It was also used in the cold storage department in the new Terminal Building of the Pennsylvania Railroad.

"Lapadas" for the integral method of insulation is of a mineral base, of paste-like consistency. It possesses advantages which have long been sought, and their effectiveness has been fully demonstrated.

Readily taken up by the gauging water, it is equally distributed into every part of the mass, and therefore uniformly efficient.

"Lapadas" adds to the strength of concrete and prevents the so unsightly effect of efflorescence.

Write for further information.

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Arrangements must now be made for the sixth edition of Sweet's Catalogue if you want representation in the coming edition.

"Sweet's" brings the buyer and seller together at the time they most need each other—when a contract is to be let.

Why not let the architect have immediate access to you when he wants to let a contract?

"Sweet's" is referred to by the entire purchasing power in the building material field—and is used when specifications are prepared.

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We announce an entirely new feature which will interest the manufacturer who can sell only in a limited territory.

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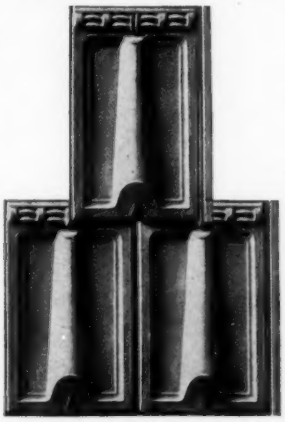
"The Ornamental and Permanent Roof."

Good for Thirty Years' or More Service.

One Sixth the Weight of Slate. Ten Per Cent. Heavier than Other Metal Tile.

ARCHITECTS
We solicit Correspondence.



Style "A" TILE Showing Sidelocks and Embossed End Laps

NOTE THE

Embossed End Lap

Absolutely Prevents Moisture from Penetrating to the Sheathing.

We guarantee Our Galvanized Tile Absolutely Free from All Imperfections in the Zinc Coating.

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"Cleveland" Flush Meter

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Easily Adjusted
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Valves easily adjusted to any pressure, or for any required amount of water

The "Cleveland" Valves have no leather cups, packing rings, or diaphragms to wear out

Only one moving part, which is the most perfect floating valve ever invented

Sold with lever action or press button

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IDEAL CONCRETE BLOCKS lend beauty to every possible form of construction work, because of certain distinct, original features in the Ideal Concrete Machine.

THE FACE DOWN PRINCIPLE permits blocks to be tamped directly against rich facing material. The perfect amalgamation thus secured, and the sharpness and definiteness with which the design is brought out, give the Ideal Block an artistic completeness of finish possible to no other.

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THESE are only some of the vital reasons why Ideal Blocks are being specified exclusively by the architect who wants not only durability and satisfactory service, but who demands artistic work.

OUR NEW CATALOG for 1910 tells all about the industry and the Ideal Machine. It also explains how we cooperate with the architect to secure best results. Sent free, on request.

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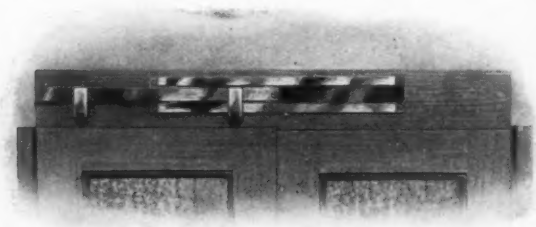

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Door Hanger Efficiency

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The McCray Refrigerator installed in the above-illustrated handsome residence of Col. G. G. Pabst, Milwaukee, Wisconsin, is noteworthy, not alone because of its size and cost, but also because it is a striking example of the results that can be secured by **building the refrigerator to fit the house.**

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are going into a majority of the finest constructions in the country today, because the organization of our drafting department insures **right installation** as well as **right construction.**

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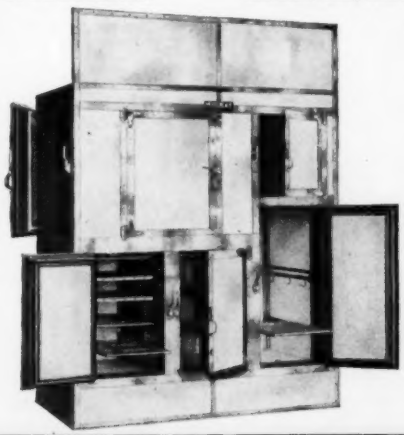
Further particulars in regard to this service, for which there will be no charge, will be mailed to any address on request, together with a copy of any or all of the following McCray catalogs:

No. A-H, Built-to-Order for Residences; No. 87, Regular Sizes for Residences; No. 67, for Groceries; No. 59, for Meat Markets; No. 48, for Hotels, Clubs and Institutions; No. 72, for Flower Shops.

Catalog of regular sizes appears in 1910 Sweet's Index, pages 1103-1107.

McCray Refrigerator Company
105 Lake Street, Kendallville, Ind.



METAL DOORS
That look like wood

Typical door opening in New National Museum, Washington, D. C.

BUILT AND ERECTED BY

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See Sweet's Inquiries solicited

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In some of these installations the most popular restaurants are in the basement. The air delivered in these basement restaurants is actually purer and *infinitely cleaner* than the air of the street level.

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The "Fenestra" Joint—a new invention—gives each intersection more strength than ever was possible before. Unlike former joints, practically no metal is taken out to weaken it. The metal is simply spread and, when the joining is perfected, put together again by pressure.

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Detroit-Fenestra
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Solid Steel Window Sash in Standards

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PRESTIGE is the meed of architects who design **well-lighted** industrial buildings. This is realized by all architects and engineers today. They know that mill men and owners of factories, foundries, car shops, garages, power stations and industrial institutions generally are awake to the **value of daylight** for their work-shops.

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Thus the factory is made light—**with daylight.** Employes improve in efficiency. Cost of production is **cut down.**

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N. Y. C. & H. R. R. Shops, West Albany.
Crown Columbia Pulp & Paper Co., Portland, Ore.
Duluth, Missabe & No. R. R. Shops, Proctor, Minn.
Chicago & Northwestern Ry. Terminal, Chicago, Ill.
U. S. Steel Corporation, Gary, Ind.
Mitchell Motor Car Co., Racine, Wis.
American Optical Company, Southbridge, Mass.
Ireland & Matthews Mfg. Co., Detroit, Mich.
General Electric Co., Pittsfield, Mass.
Dodge Mfg. Co., Mishawaka, Ind.
Solvay Process Co., Syracuse, N. Y.
Peninsular Stove Co., Detroit, Mich.
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A RE-MINDER

to write the Detroit Steel Products Co., Dept. 63, Detroit, U.S.A. for their FREE Pamphlet Y and full details about Detroit-Fenestra

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HONEYWELL System Hot Water Heating plans are thoroughly revolutionary—Radiators are tapped at one end only for Honeywell Hot Water just as for low pressure steam.

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HONEYWELL HOT WATER HEATING

is not only displacing the old fashioned big pipe, two end radiator tapping hot water heating systems—Honeywell is displacing low pressure steam because it adds all the mild weather comforts of hot water heating to the zero night power of steam and at no added cost over the low priced steam heat.

Send along one set of blue prints to our engineering department on our special offer on the opposite page.

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Don't Plan Hot Water Heat Without One of These

IT takes just one of these peculiarly shaped little devices to make it possible to erect hot water heating as cheap as low pressure steam.

We call it the HONEYWELL HEAT GENERATOR because it so tremendously accelerates the circulation in hot water heating that very much smaller piping can be used, and also because it gives 40 degrees more heat in the radiators, when necessary in blizzard weather.

This Honeywell Heat Generator does actually seem to have the power to generate heat when, in the morning, the radiators on a Honeywell System respond to the opening of the drafts at the boiler so much quicker than in old fashioned water logged hot water systems.

No magic about it—The Honeywell Heat Generator cuts down the water in the system one-third and, of course, one-third less water is heated and circulated in that much less time.

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Thirty-three thousand successful Honeywell Hot Water Heating Systems and a financially responsible concern are behind this guarantee.

Honeywell Heating Specialty Co.

WABASH, INDIANA

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ARCHITECTS.
THE MONADNOCK BLOCK.

William Holabird.
Martin Roche
Edward A. Renwick

6/1

CHICAGO Monday,
March
Fourteenth,
1 9 1 0

The Architectural Record Co.,

Sweets Catalogue,

Monadnock Block, Chicago.

Gentlemen:

We can make use of an additional copy of Sweets Index in our Specification Department and would also like the privilege of retaining the 1909 issue.

Very truly yours.

Holabird & Roche

Architects.

EB.

Do the Architects Use "Sweet's"

in making Specifications?

The value of "Sweet's" to the manufacturers depends upon the answer to this frequently repeated question.

The letter reproduced above, coming from one of the most eminent firms of architects in the country, answers this question more conclusively than it could be answered by any statements we could make.

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and their clients

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in town houses and country residences of every class.

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The Peyton Building, Spokane, Wash.
Equipped with Mullins Metal
Fire Proof Windows.

"An Ounce of Prevention"

It is easier to ***prevent*** a disastrous fire than it is to ***stop one.***

The weak point in all buildings is through the windows.

These openings can be made as fire proof as the walls themselves by installing ***Mullins Fire Proof Windows.***

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Fire Proof—Storm Proof—Dust Proof

Windows

have successfully withstood the severest trials not only in factory experiments but in actual conflagrations.

Mullins Windows are perfect windows in every way.

Entire lock-seamed metal with no soldered joints in frame, sill or sash. They cannot warp or buckle and are not affected by heat, expansion or contraction.

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Buckingham-Virginia ROOFING SLATE

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Best Roofing on earth. First cost —only cost.

When properly put on will last a lifetime.

Guaranteed to be strictly unfading.

This slate put on buildings eighty years ago, same color today as when put on.

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Owners and Operators of the Celebrated "Old Nicholas" Quarries

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THE OTIS RESIDENCE ELEVATORS have been installed throughout the world, even in such remote places as Africa, Sweden, India and Chili, and also in all the capitals of the Continents. In the City of New York there are over a thousand in use. One of the entrances to such an elevator in a private residence in New York is shown above.

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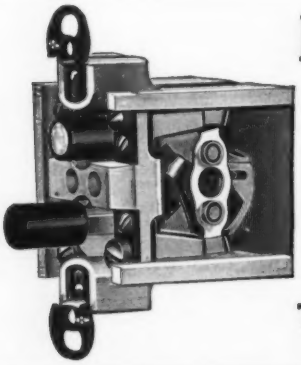

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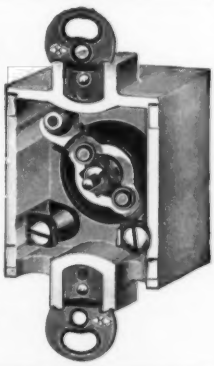

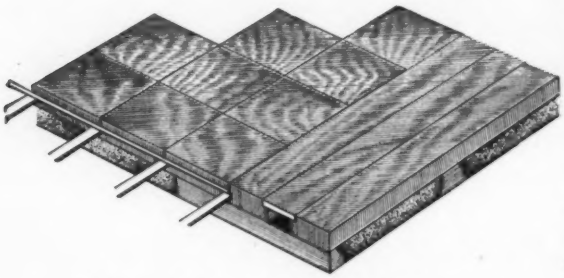

Showing two border wall strips with bridged over compression space and short dovetailed pieces of wood to which border strips are lightly nailed.

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The Perfect Floor for Concrete Structures. No gumming of blocks to concrete, no imbedding of beams in the concrete. Withstood flooding during Great Baltimore Fire. Several carloads used in New York Custom House.

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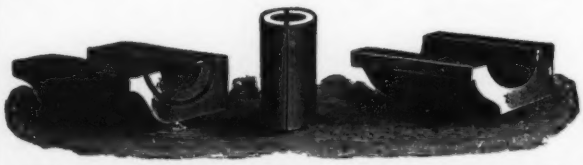

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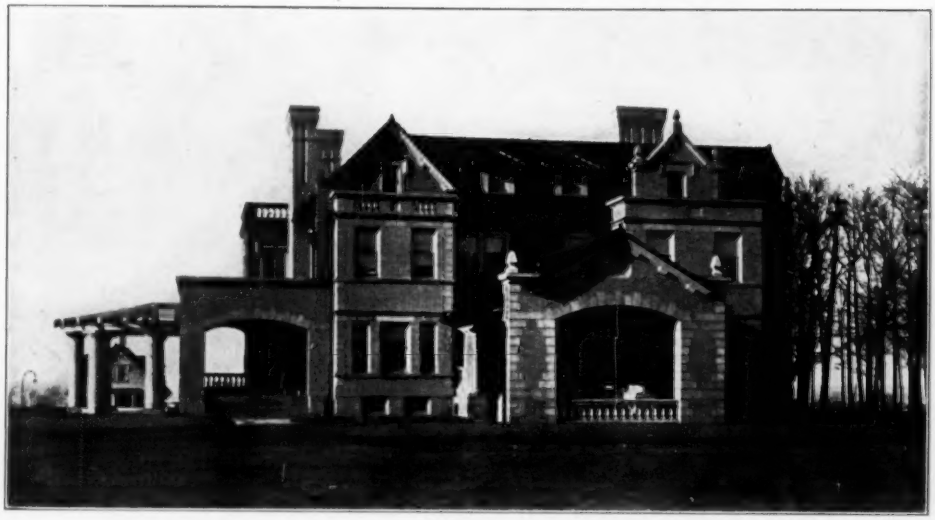

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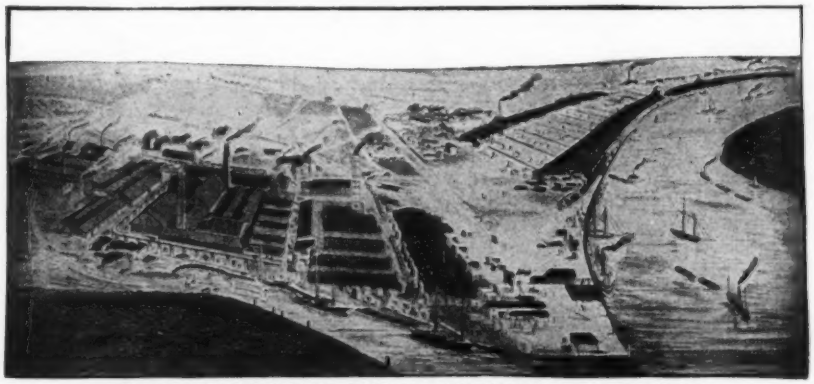
The most beautiful architectural effects can be produced by us at a great reduction in cost over that of the laborious method of cutting and carving of natural stone.

***The* Geo. Rackle & Sons Co., Cleveland, Ohio**



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IT IS PERFECTLY NOISELESS

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The Murray Hill Building and a part of the Wheeler Building, on West 38th Street, New York. Architects, Starrett and Van Vleck

¶ These buildings are examples of the best class of loft buildings, and afford excellent opportunities for the proper use of Architectural Terra Cotta. The entire facade of each building, above the third story, is of white mat glaze Terra Cotta.

¶ The contrast between the absorbent stone of the first stories and the impervious Terra Cotta superstructures will become more marked in time.

¶ Every shower will clean glazed Terra Cotta; stone must be sandblasted.

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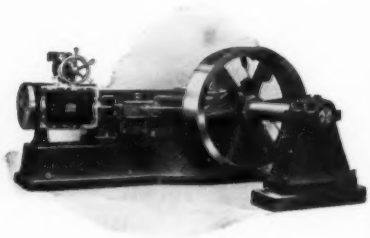

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Side and Center Crank
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Belted and Direct Connected

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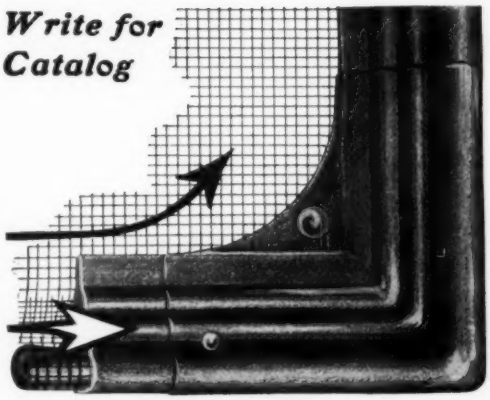


Higgin All-Metal Screens

FRAMES of *steel* or *copper*. Only $\frac{9}{16}$ inch thick. Enamel or dull finish. Trim, neat, inconspicuous, *beautiful!* Channels metal too. *Nothing* to warp, split, swell, shrink, or rot. *No cause* for sticking. Screens fit perfectly *always*.

Netting of *solid* bronze wire. Not painted because it *needs no paint. Can't* rust. *Never* has to be painted. *Always* looks like new. Fastened by our patented inside round frame. Held uniformly tight but not bent sharply at any point. No breaking.

Offices in all large cities. Measurements taken, screens delivered and fitted *anywhere*. Complete information gladly sent to architects and owners. Write today.

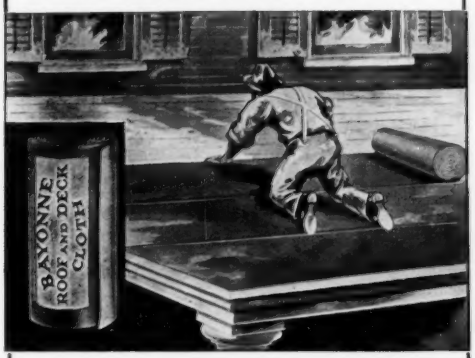
Higgin All-Metal Weather Strip

FITS *into* the sash—not against it. Parts around window and window frame *dovetail*. Also those between the two sashes. No matter how window frame and sash may change afterwards through warping or shrinking, weather strip remains *air-tight*. *Never* wears through because edges of metal *don't touch*. One part is zinc; other bronze. No friction. Window slides in rounded metal part; not in tight angle. Never sticks. Write for circular.

THE HIGGIN MFG. CO.

506-528 Washington Ave. Newport, Ky.

For Canvas Roofs



SPECIFY THE SCIENTIFICALLY PREPARED

BAYONNE ROOF AND DECK CLOTH

Easiest to Lay Lasts Longest

REQUIRES BUT ONE COAT OF PAINT

The process permeates the fabric and preserves the fibre

BEST FOR PIAZZA ROOFS AND PORCH FLOORS

SAMPLES are, of course, yours for the asking. Send for BOOK R-6 and satisfy yourself of the wearing quality.

John Boyle & Co., Inc.

112-114 Duane Street 70-72 Reade Street
New York
202-4 Market Street, St. Louis

The Standard Brand of White Canvas

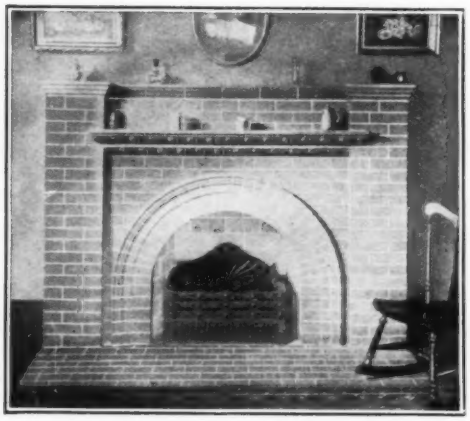
GULF STREAM ROOFING CANVAS

All widths—Any quantity—All weights

JOHN BOYLE & CO.'S Awning Stripes have been the standard for 50 years.

MANTELS for HOMES

IN ANY DESIGN, COLOR OR TEXTURE



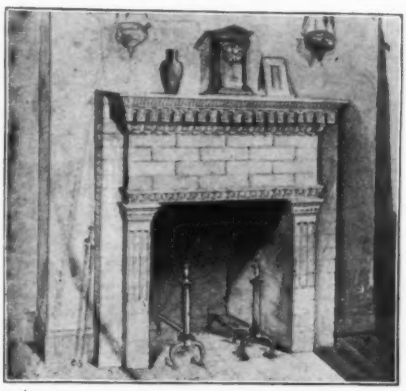
Architects

We make a specialty of building mantels for homes, and solicit opportunities to estimate from your designs.

Material, workmanship and price warranted the best.

American Home Fireplace Company

MASONIC TEMPLE, ZANESVILLE, OHIO



Ornamental Brick Mantels

Ours are Cheerful, Artistic, Healthful, Durable and not too costly. Easily set by local masons with our plans.

There is No Other Kind So Good

When you build or remodel, send for our Illustrated Catalog.

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Dept. A

Office and Showroom, 165 MILK ST., BOSTON, MASS.

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the Architectural Record every once in awhile gains much—but the one who subscribes regularly keeps abreast of the times in his profession and has a record of architectural progress for his reference library. May we add your name to our lists? Yearly subscription rates, $3.00, postage prepaid.

The Architectural Record Co.

11 East 24th Street

NEW YORK

"Enameled Brick for Exteriors"

This is the name of a handsome illustrated Bulletin, 10" x 14", which is fresh from the press.

The use of our perfect enameled brick in many of our finest modern buildings is shown in detail.

"Plunge Bath Construction" is another good booklet.

These Bulletins contain many suggestions of value to any architect or builder.

They are free for the asking.

Send for copies now.

THE AMERICAN ENAMELED BRICK & TILE CO.

ONE MADISON AVENUE
NEW YORK, N. Y.

Agents in 65 principal cities
See our catalog on pages 101-107 "Sweet's" Catalog, 1910

TRADE MARK
Tapestry Brick
REGISTERED IN U.S. PATENT OFFICE

is distinctive in texture, color, and effect.

"Tapestry Brick" is a trade mark registered in the United States Patent Office.

No manufacturer or dealer, except those handling our brick, has a right to use the word "Tapestry" in connection with brick.

Ignorant or unscrupulous dealers sometimes offer their products as "Tapestry."

This is misleading to the architect and his client, and is "unfair" as well as illegal.

We have recently been obliged to bring suit against two parties for infringement.

The United States Circuit Courts have upheld our trade marks and copyrights and have issued injunctions against the infringers of the most sweeping character, thereby establishing the legal status of our claims.

Architects and contractors to whom any brick except ours is offered as "Tapestry" will confer a great favor on us by reporting the same in order that we may take the proper steps to prevent further misrepresentation and infringement.

There is only one "Tapestry Brick"—the name is branded on each brick.

FISKE & COMPANY INC
FACE BRICKS ESTABLISH
FIRE BRICKS ED IN 1864

Sole Manufacturers of "Tapestry Brick"
Designers and Promoters of

ARTISTIC BRICKWORK

1773 Flatiron Building New York

The Thousands Who Have Used

Cabot's Shingle Stains

have not done so haphazard. They have investigated, calculated—and adopted. They have got beautiful coloring effects, with a depth and richness impossible in paint, and at half the cost —50% cheaper than paint.

Investigation costs a postal card request for samples and catalogue.

Samuel Cabot, Inc., Sole Mfrs. BOSTON, MASS.

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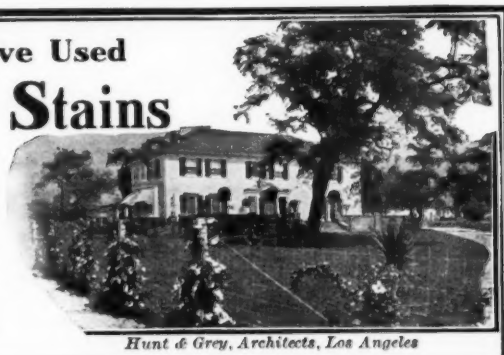
Agents at all Central Points.



Hunt & Grey, Architects, Los Angeles

Paint Reasoning

If finely ground white lead and water are mixed to a paste and pure linseed oil is poured into this mixture, the linseed oil will drive out all the water.

If the linseed oil will drive out water from white lead, what chance has rain or snow or other moisture of penetrating a film made of white lead and linseed oil?

The Dutch Boy Painter trademark is a guaranty of pure white lead.

National Lead Company

New York Boston Buffalo Chicago
Cincinnati Cleveland St. Louis
(John T. Lewis & Bros. Co., Philadelphia)
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E. S. 1827 & Co.

I. X. L. No. 1
(for varnishing interior woodwork)
and
I. X. L. Floor Finish

carry this guarantee on every can:

We Guarantee

these varnishes as well-aged and made of nothing but hard fossil gums of superior grade, finest oil of special refining and pure spirits of turpentine.
No Rosin. No Substitutes.

They are made for the architect who wants the very best obtainable listed at $3.25 per gallon. On account of elasticity and freedom of working they cover the greatest amount of surface, and therefore, are the most economical.

Artistic set of finished panels on request.

EDWARD SMITH & CO.

Varnish Makers for 83 Years

West Ave., 6th and 7th Sts., Long Island City
P. O. Box 1780, New York City
Western Branch, 3532-34 S. Morgan St., Chicago

Willson's Building Directories

THE ORIGINAL AND STANDARD
CHANGEABLE and ALPHABETICAL

Only directory that can be kept alphabetically correct and up to date in every particular. Cheapest, neatest and most convenient. Letters uniform, correctly spaced, and every name on alignment.

Adopted by the most prominent buildings

Catalogue and full particulars sent on application.

THE TABLET AND TICKET COMPANY

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Highest in Price and Well Worth It

The wide specification use of Linduro by prominent architects where particular care is requisite, or where conditions are especially trying, proves the indisputable quality of this highest grade as well as highest priced enamel. Yet, figured *by the job,*

LINDURO

is the most economical of enamels

But what is more interesting to the architect is the matchless texture he gets, not the first week only, but years after the "good enough" enamel has lost lustre, discolored and "crazed."

The delicate old ivory, rich eggshell and lustrous white Linduro finishes, preserve each their true characteristics almost beyond the reach of time and wear.

Write for test boards and sample panels, also testimony of those who have tried Linduro.

For details of specifications, see Sweet's Index, pages 1332-3.

Lowe Brothers High Standard Liquid Paint

The Lowe Brothers Company

Makers of "High Standard" Paint and Little Blue Flag Varnish

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Boston New York Chicago Kansas City

GLIDDEN'S

SUPERIOR WHITE ENAMEL

Is the finest quality of White Enamel that can be made. Dries quickly with a beautiful glossy surface, that retains its beauty through exposure and wear, and does not turn yellow. It is easily kept clean and is not affected by repeated washing. It is intended for use on old varnished interior woodwork, and can be used over old varnished and painted surfaces with most excellent results. Can be rubbed to a dull finish.

Used by the Best Painters Everywhere
List Price, $5 per Gallon

We will appreciate your specification of this material, and we agree to follow up the work to insure its use.

We refer you to Sweet's, pages 1324-1325.

THE GLIDDEN VARNISH COMPANY

Makers of High Grade Varnishes for all purposes

Glidden Bldg., Cleveland, Ohio

GLIDDEN'S

GREEN LABEL VARNISHES

FOX'S

TRADE MARK
REG'D U. S. PATENT OFFICE

FOR TINTING AND DECORATING Walls and Ceilings

WHITE : TINTS : FRESCO COLORS

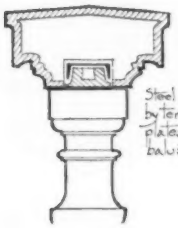
Beautiful Water Color Effects

M. EWING FOX & CO.

MANUFACTURERS

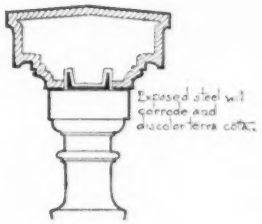
New York Chicago

HOW TO DETAIL TERRA COTTA



Fifty other examples of good and bad terra cotta construction will be found on pages 131–137 Sweet's Index Any architect's office

THE NORTHWESTERN TERRA COTTA COMPANY



The "Cleveland"

Direct from the Factory

SIMPLE TO HANDLE
EASILY INSTALLED
ECONOMICAL TO MAINTAIN

All AIR disturbed in cleaning is FOUL AIR, and should be removed with the DIRT. Our vacuum cleaning system carries off and disposes of all DIRT, DUST and FOUL AIR.

A device that does not remove all Foul Air and Unclean Substances is only doing half its work, and does not accomplish the fundamental purpose.

The owner of a "CLEVELAND" has perfect sanitary conditions. Let us know your requirements. AGENTS WANTED.

The Cleveland Vacuum Machinery Company
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Residence of Dr. H. M. Pollock, Supt. Norwich State Hospital, Norwich, Conn. Cudworth & Woodworth, Architects

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(Waterproof and Odorless)

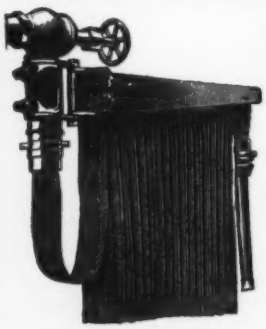
THESE Shingle Stains contain no creosote and are absolutely free from all objectionable odor.

They create an impervious coating, causing the shingle to shed water like a duck's back, thereby keeping out dampness, the greatest enemy known to wood, and doubling the life of shingles.

Everything that enters into the make of ART IN SHINGLE STAINS is of the highest quality possible for man to produce; they are made in the most scientific manner. **Colors of extreme tone and richness and of absolute purity, combined with pure linseed oil and our special Waterproof Protective Liquid.**

Endorsed by Leading Architects and others
Send for cabinet of rich colors, free

Adamant Stucco, Brick and Plaster Coating
Waterproof Flat Brick Stains Weatherproof Coating
Waterproof Brick and Stone Filler
Adamant Cement Floor Coating
MANUFACTURED SOLELY BY
Parker, Preston & Co., Inc., Norwich, Conn., U.S.A.
New York Branch, 25 West 42d Street



The "ROYAL" Pressed Metal HOSE RACK

SURE IN OPERATION
HOSE UNDER COVER
ATTACHED PINS

Made of PRESSED STEEL and MALLEABLE IRON

Can be attached to wall, to stand pipe, or by means of nipple direct to valve.

Wirt & Knox Mfg. Co., 20-24 No. 4th St., Phila., Pa.

Catalogue on Request

Richard's Royal Ball Bearing Door Hanger

Our No. 122 Royal Ball-Bearing Trolley House Door Hanger

is the one which we are most frequently using to illustrate this series of advertisements, because it is thoroughly typical of the Richards line. We make a large number of different hangers for as many different purposes, so that we can always supply the exact one needed.

The No. 122 Royal Ball-Bearing Trolley House Door Hanger

is perfectly noiseless, the wheels run on hard maple, the adjustment is in hanger and also in the track. The track can be easily taken down ***after the walls are plastered.*** Four sets of balls in each hanger and overhead center stop.

We will send a hanger free to any architect requesting us to do so.

The RICHARDS MANUFACTURING CO. Inc.
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With this complete ten volume set of

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you can practically surround yourself by the knowledge you need in your every day work. You can have at your fingers' ends, for instant use, the help and advice of forty experts.

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Contains: Plans, color plates and photos of buildings completed and in course of construction. Diagrams and sections showing all details. Over 400 full page plates. 3,000 detail drawings, diagrams, etc. Just the thing for the student and a practical guide for the experienced carpenter and an ever ready reference work for the expert.

Our Liberal Offer To introduce our Correspondence Courses, from which the Cyclopedia is compiled, we offer this set of books at the special price of $24, payable $2 after 5 days and $2 a month. Regular price is $30. Order now and save over 20%

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For a short time we will include, as a monthly supplement, for one year, the TECHNICAL WORLD MAGAZINE. This is a regular $1.50 monthly, full of Twentieth Century scientific facts, written in popular form. Also contains the latest discussions on timely topics in invention, discovery, industry, etc.

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Please send set Cyclopedia of Architecture, Carpentry and Building for 5 days' free examination; also Technical World for 1 year. I will send $2.00 within 5 days and $2.00 a month until I have paid $24.00; or notify you and hold the books subject to your order. Title not to pass until fully paid.

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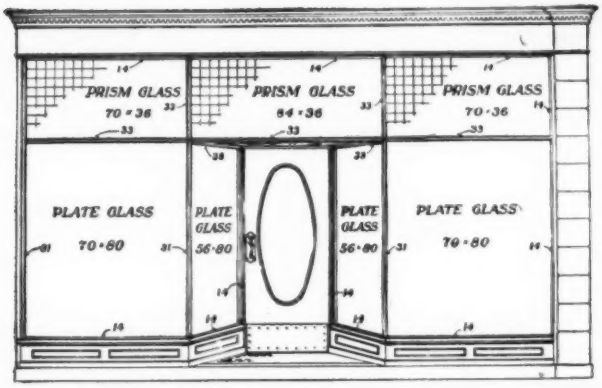
ADDRESS.....

OCCUPATION.....

EMPLOYER.....

Arch. Record, 6-10



BETTER LIGHT

and more display room are certain results when store fronts are built on the Petz System. It combines to the greatest degree the essentials of strong, permanent construction and artistic appearance. It is quicker and easier to install than others, as with Petz Bars the glass is set from outside. Insurance companies, architects and builders endorse them and you should insist upon them.

An interesting booklet, "Modern Store Front Construction," will be mailed upon receipt of your request. Write for it today.

DETROIT SHOW CASE CO.
Sole Makers
477 West Fort St. Detroit, Mich.

A Good Repeater—if once specified, always used

"Giant Metal" Sash Chain

Used throughout the Hewitt-Bryce Bldg., New York

Capacity Chain Plant, 20 miles per day
In use over 30 years

THE SMITH & EGGE MFG. CO.
Bridgeport, Conn.

JAPANESE GRASS CLOTH
JAPANESE BURLAPS
JAPANESE SHIKII SILKS

FOR WALL DECORATIONS
In specially selected shades and original effects
Full stock always on hand

LIONEL MOSES, *Importer*
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Book of samples of complete line mailed free on application. Trade Exclusively

SAMSON SPOT CORD

can be distinguished by our Trade Mark, the Colored Spot. It has been proved by long experience to be the most economical device for hanging windows.

SAMSON CORDAGE WORKS, - BOSTON, MASS.

LAUREL-IN-THE-PINES, LAKEWOOD, N. J.

Protected from Lightning by the N. Wallace *System of Solid Copper Lightning Conductors*

N. WALLACE, Farmington, Connecticut

J-M Asbestos Roofing is the Only Smooth-Surfaced Ready Roofing Permitted

Statistics gathered by the National Board of Fire Underwriters show that the fire loss in the United States during the ten years ending in 1907 averaged $203,000,000 a year. Statistics further show that over half of these annual fire losses were the result of flames being communicated from another building by burning sparks, embers, etc., landing on an inflammable roof.

IN SAN FRANCISCO, CAL.

where the authorities are using every precaution to prevent a possible recurrence of the terrible fire loss of 1906, J-M Asbestos Roofing is the only smooth-surfaced ready roofing permitted within the city fire limits.

IN JACKSONVILLE, FLA.

where the building laws regarding fireproof materials are severe since their $10,000,000 fire in 1901, J-M Asbestos Roofing is included among metal, slate and the other fireproof materials which can be used.

IN MINNEAPOLIS, MINN.

after an official test, during which the flame of a blow-torch failed to ignite wood covered with J-M Asbestos Roofing after a ten-minute exposure, the City Council amended their city building ordinances to include this roofing.

IN ATLANTA, GA.

the Building Committee has pronounced J-M Asbestos Roofing equal to metal, tile and slate for resisting fire.

When after thorough investigation and careful tests, such cities as the above pronounce J-M Asbestos Roofing absolutely fireproof, *isn't it a pretty safe guide for you to follow?* J-M Asbestos Roofing is absolutely fireproof because it is made entirely of minerals—Asbestos and J-M Trinidad Lake Asphalt. **Write nearest branch for Sample and Booklet.**

H. W. JOHNS-MANVILLE CO.

Manufacturers of Asbestos and Magnesia Products

ASBESTOS

Asbestos Roofings, Packings, Electrical Supplies, Etc.

Baltimore, Boston, Buffalo, Chicago, Cleveland, Dallas, Detroit, Kansas City, London, Los Angeles, Milwaukee, Minneapolis, New Orleans, New York, Philadelphia, Pittsburg, San Francisco, Seattle, St. Louis

(1057)

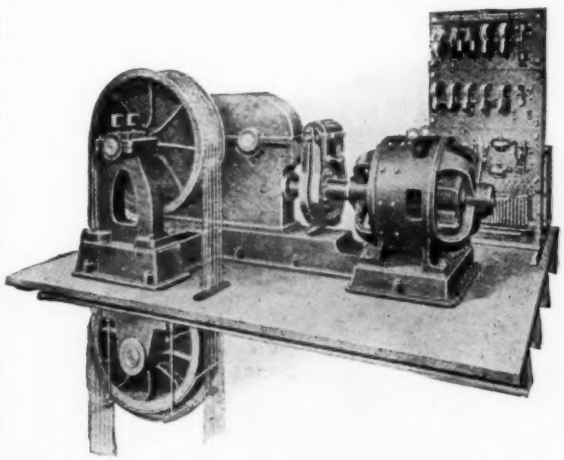
The Ohio Elevator & Machine Co.

MANUFACTURERS OF

Passenger and Freight Elevators

FOR EVERY SERVICE

Electric Hydraulic
Belt and Hand Power

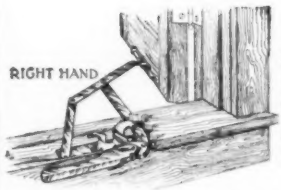


Adaptable to any height of building and has very high speed

The Ohio Elevator & Machine Co.

COLUMBUS, OHIO

How to Specify Casement Windows



Note that Sperry Casement Window Adjuster is concealed under the stool of the window—works without raising the screen—no part protruding in the room when not in use.

Complete details for Sperry Casement Windows are found on page 595, Sweet's Catalogue.

Use these details when specifying the Sperry Casement Adjuster, as the Sperry goes entirely under the stool of the window and is an integral part of the building—not an attachment to be put on at the carpenter's convenience.

See page 595 Sweet's Catalogues for installation and specification detail

OSCAR C. RIXSON CO.
111 West Harrison Street, CHICAGO

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Awarded the Gold Medal at the St. Louis Exposition, 1904, for Superiority of Goods

Eureka Fire Hose Mfg. Co.

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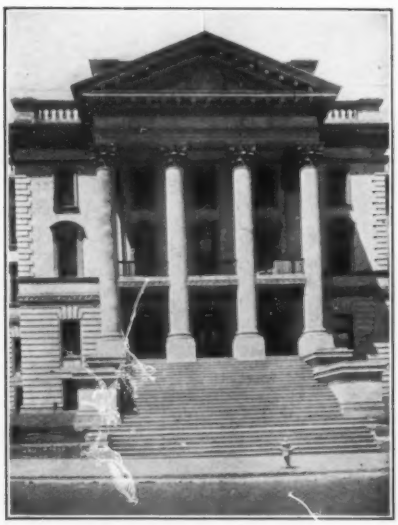
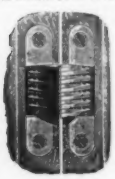
Columbus, O. — Atlanta, Ga.
Dallas, Tex. — Minneapolis, Minn.
Denver, Colo. — Seattle, Wash.
Syracuse, N. Y. — San Francisco, Cal.
Kansas City, Mo.



Southern Pacific Hospital, San Francisco, Cal.



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INVISIBLE HINGES

Send for Booklet or see "Sweet's," pages 598-599

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LINCRUSTA-WALTON

SOLID RELIEF DECORATION

Dados, Friezes
Ornaments & Panels
In Any Color
For Dining Rooms
Halls, Hotels,
Offices
Club Houses
Yachts, Churches
Used by all
Principal Dealers
Throughout the
United States

FR. BECK & CO.
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The Thomas L. Morton Residence, Newark, N. J.
William F. Cone, Architect

NEPONSET
Black Waterproof Building Paper

WHY should a non-waterproof building paper ever be used? It cannot last, because it becomes damp, decays, dries again, crumbles and finally disappears.

The cost of a really good waterproof paper for residential work is only about three-tenths of a cent per square foot more than the lowest grade of so-called building paper.

Compare a sample of NEPONSET PAPER with a sample of Rosin Sized Paper. Don't you think the difference is worth three-tenths of a cent?

Our sample book is in the Catalogue Cabinet File. See Sweet's Index for further information.

BIRD NEPONSET PRODUCTS

F. W. BIRD & SON, MAKERS

Established 1817. **Mills and Main Office, EAST WALPOLE, MASS.**

New York Washington Chicago

NONPAREIL CORKBOARD
The Standard Cold Storage Insulation

Every person who is concerned with the design, construction or operation of cold storage rooms of any description will be much interested in our new 120-page book, entited "Nonpareil Corkboard Insulation."

It is the most exhaustive treatise on this subject ever published, and contains much data never available in printed form heretofore. The book is neatly and substantially bound. A copy is yours for the asking.

Armstrong Cork Company Insulation Department **Pittsburgh, Pa.**

NONPAREIL CORK WORKS, 50 Church Street, New York City
JOHN R. LIVEZEY, 1933 Market Street, Philadelphia, Pa.

BRANCHES IN THE PRINCIPAL CITIES

NO WOOD TO ROT NO TIN TO RUST

THE "SAINO"

THE REALLY FIREPROOF DOOR

No Combustible Material—Sheet asbestos between two metal walls stops heat.
No Decay—Made of 22 gauge iron, corrugated and galvanized—**no rust.**
No Repairs—For reasons stated above. **Last many years longer.**
No Criticism from Underwriters—Fully tested and approved.
Weight—Half as much, look better and **cost no more** than other **standard** doors.

Shutters made of same materials. Fixtures, Hangers, Track, Fusible Links, Etc.

Perfected too late for "Sweet's" 1910, but will be in 1911 edition.

Saino Fire Door & Shutter Co., Memphis, Tenn.

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If not, you should try them at once and be convinced that the "KOH-I-NOOR" pencil is by far the best pencil in the world for any purpose. The "KOH-I-NOOR" pencil is made in 17 degrees and has no equal for writing, drawing, copying or retouching. Architects all over the world use them exclusively, because "KOH-I-NOOR" pencils are perfectly tempered and compressed, are free from grit or soft, greasy spots and rarely break, and they last longer than any other pencil in the market.

Price 10 cts. each or $1.00 a dozen. All first class dealers in Drawing Materials and Stationery sell "KOH-I-NOOR" pencils. Made in Austria, sold and used everywhere.

L. & C. HARDTMUTH

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SMOOTH EFFICIENT

FIRE DOORS FIRE SHUTTERS

Inpected and Labeled by Underwriters' Laboratories, Inc.

SAGAX

Fireproof—Weatherproof

Wood Substitute

NO TIN NO WOOD

See pages 708-709 in "Sweet's"

The Sagax Wood Co.

Foot of Andre Street
Baltimore, Md.

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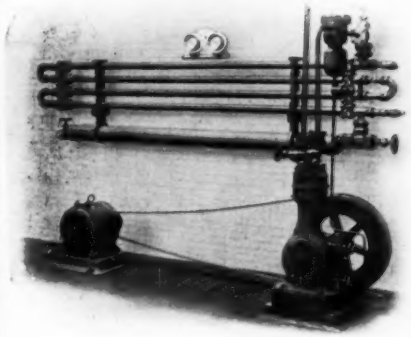

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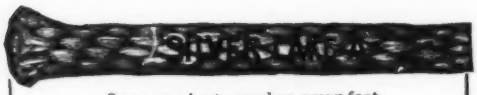

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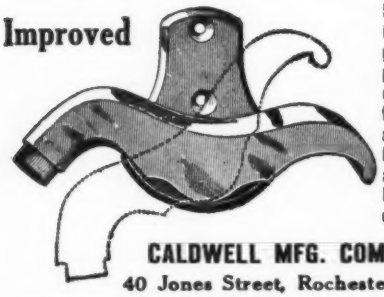

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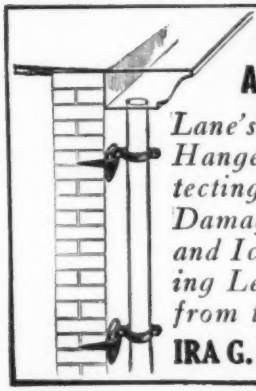

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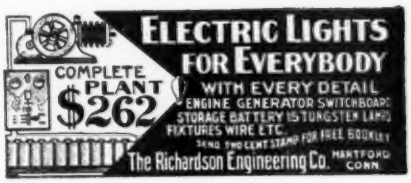

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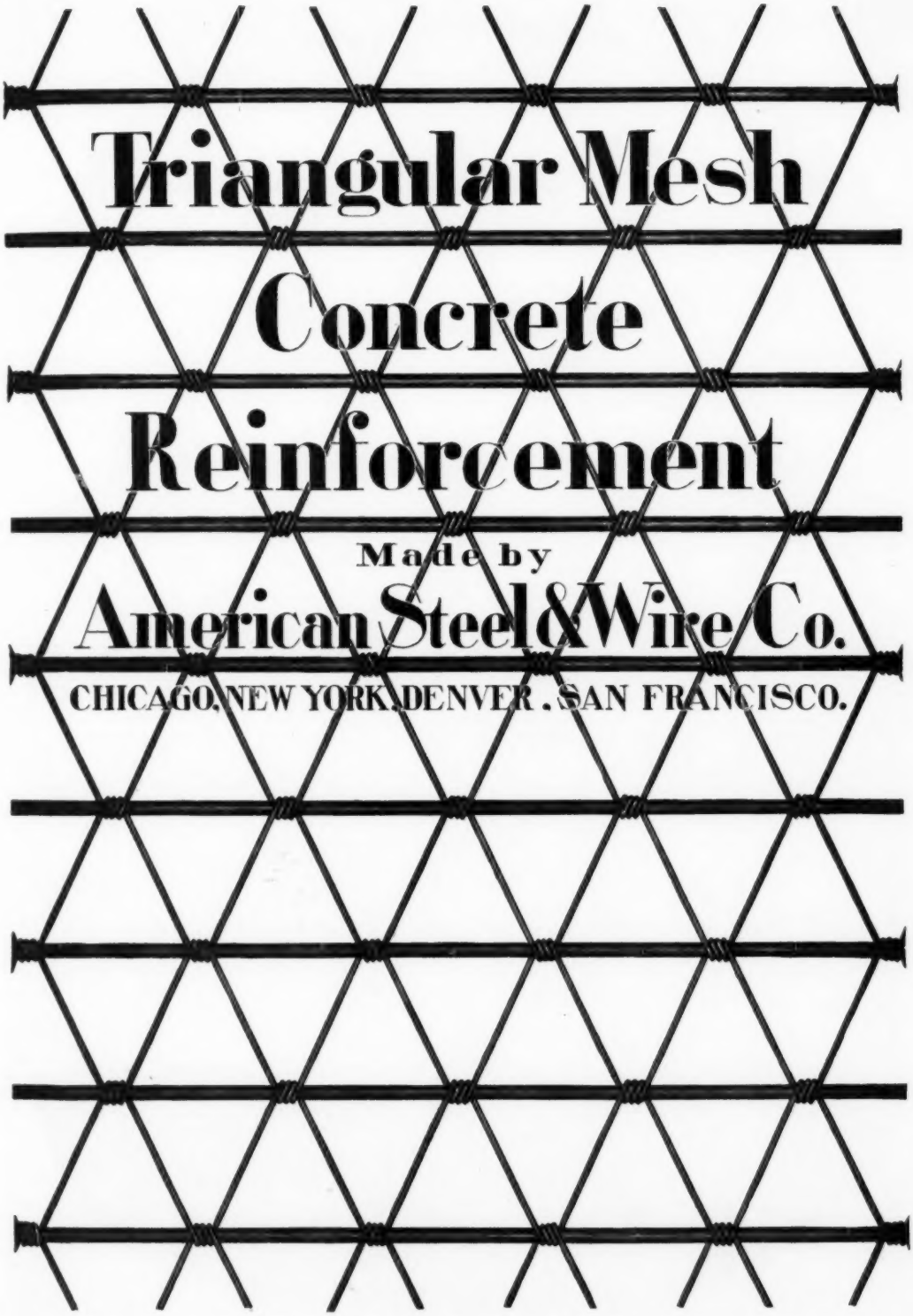

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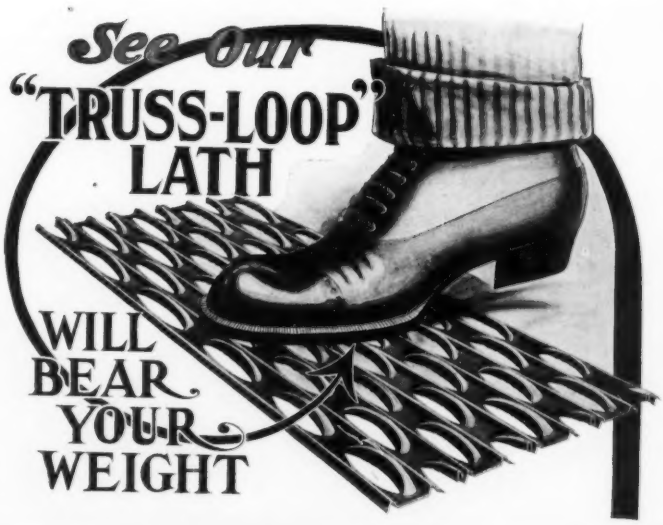

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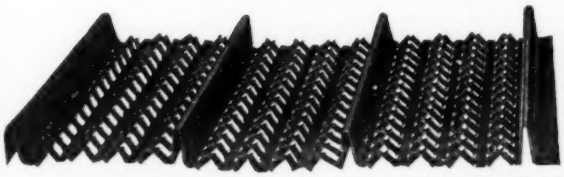

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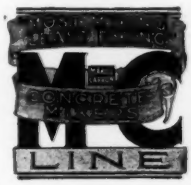

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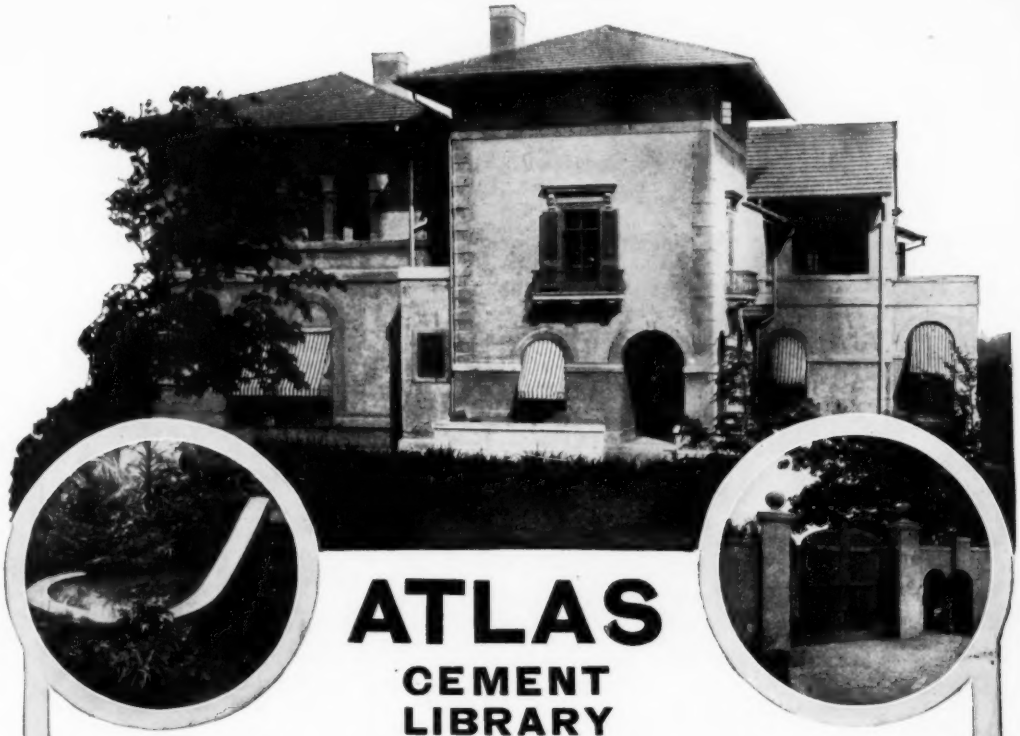

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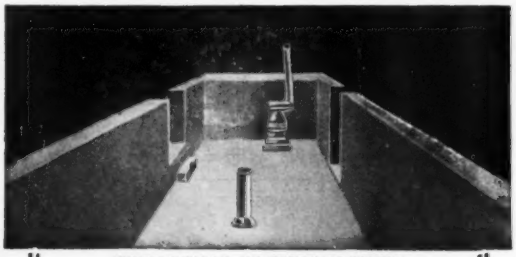

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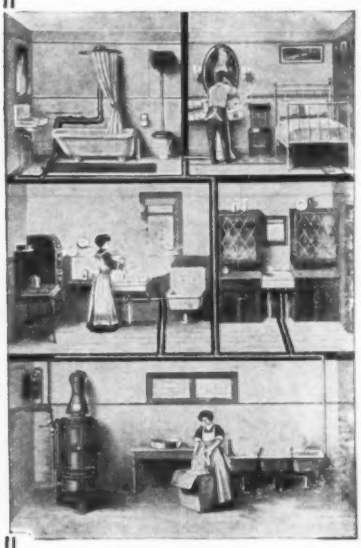

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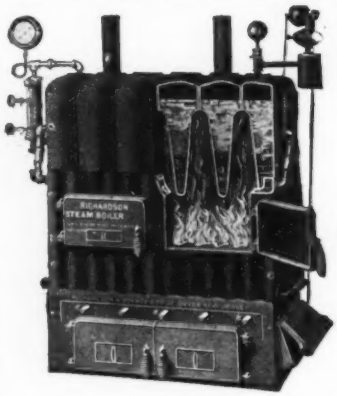

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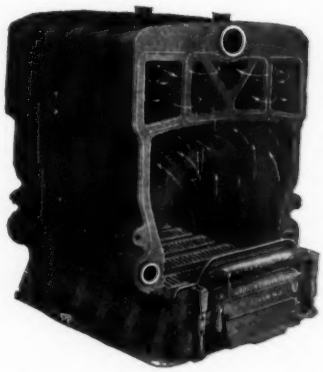

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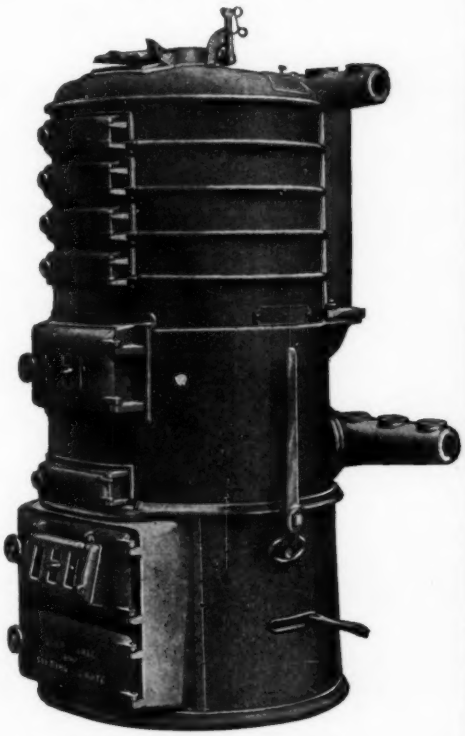
The "Spence" Hot Water Boiler



Read about the detachable water post —how it brings all water connections on the outside of the boiler, and the high base with sifting grate that will sift all ashes inside the heater without dust or dirt escaping—in our "Spence" catalog.

This catalogue gives full description, measurements, capacities, sectional cuts showing the fire travel, the high base with sifting grate, the water post and other exclusive features.

Ask for our "Spence" catalog.

Pierce, Butler & Pierce Mfg. Company

SYRACUSE, NEW YORK

NEW YORK CITY
Corner 4th Ave. and 22d Street

BOSTON
61 High Street

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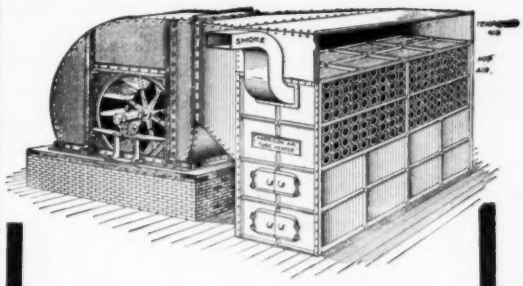

NO BOILER

can show the efficiency obtained daily by the heater used

IN THE HARRISON SYSTEM OF HEATING

Resembling a sectional water-tube boiler, the

HARRISON AERTUBE HEATER

eliminates the double transfer of heat. The air flowing rapidly through the tubes, impelled by a fan, is directly warmed by the heat from the fire. With this heater there is no water, no boiler or other steam apparatus.

Send for Illustrated Booklet.

HARRISON ENGINEERING CO.

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New York

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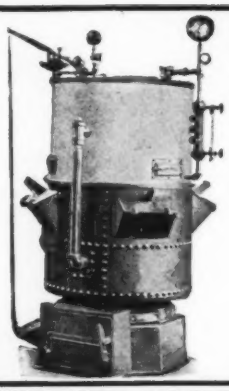
112 Water Street

CHICAGO
1209 Fisher Bldg.

22-12



Steam *and* Hot Water Systems

meant a new era in heating, but *guaranteed* boiler ratings mean a new era in boiler construction.

The *only* boilers that can be absolutely depended upon to do what's claimed for them are those whose ratings are guaranteed.

GORTON SIDE-FEED BOILER ratings are guaranteed

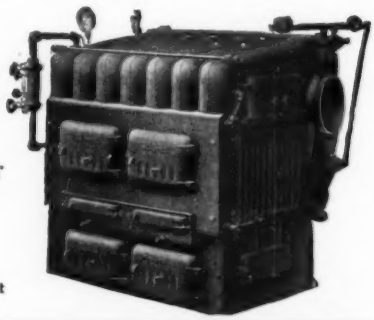
Our new catalogs on Boilers and Gorton quick-opening radiator valves will help to solve your heating problems. Free on request.

GORTON & LIDGERWOOD COMPANY, 96 Liberty St., New York

BOSTON: 77 Oliver Street CHICAGO: Fisher Building

The low water line admits it into low cellars without the objectionable boiler pit

THATCHER "PROGRESS" BOILER



Note the triple fire travel, unique water chamber and perfect circulation. Investigate.

Thatcher Furnace Co.

110-116 Beekman Street, New York — Established 1850 — 154 Lake Street, Chicago

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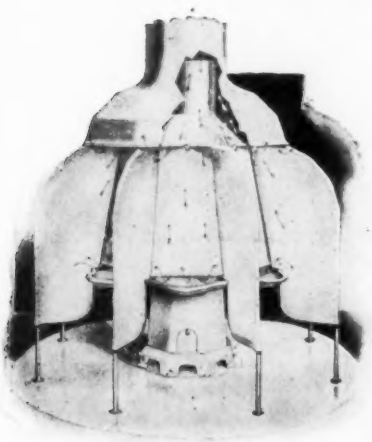
We Make a Specialty of Building and Construction Accounts

COLUMBUS HEATING AND VENTILATING CO.

MANUFACTURERS OF NEW AND

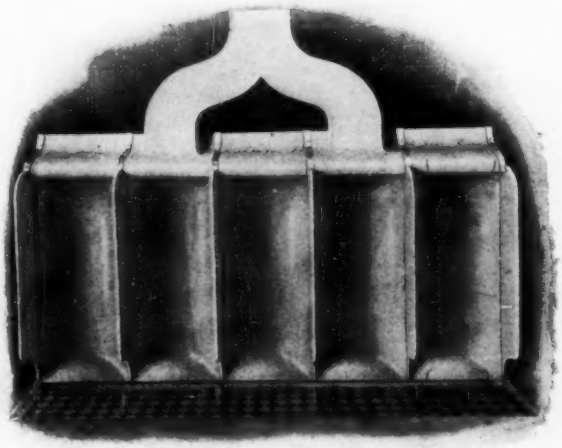
ABSOLUTELY SANITARY URINALS AND CLOSETS

Specially Adapted for Schoolhouses, Public Buildings, Comfort Stations, Railroad Stations, Hotels, Manufacturing Plants, Etc.



1-S
Octagon Urinal

This ventilated urinal is comprised of eight stalls with 24 points of ventilation, 3 to each stall. One point at base of urinal, one at receptacle, into which the water flows, and one underneath the top hood. This urinal is constructed of cast iron with heavy porcelain enameling, is absolutely sanitary, because no odors can escape into room and is as well a ventilator for the entire toilet room.



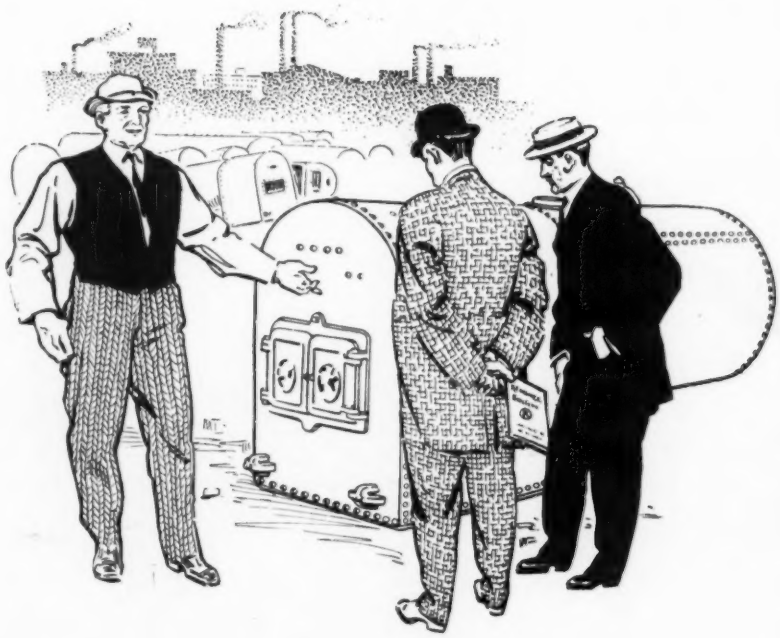
2-S
Side Wall Ventilated Urinal

This urinal is constructed of cast iron, with heavy porcelain enameling, with two points of ventilation to each stall, at space between the trough and base of stall and underneath hood at top of stall. This can be placed along the wall forming ventilating space between each concave back and the wall, the water flowing over the entire concave back and into the trough. This is the best side wall urinal on the market.

Columbus Heating & Ventilating Co.

COLUMBUS, OHIO

The Old Man Behind the Boiler



That's the fellow you want to see when you get ready to buy a heating boiler for your flat building or business block

—the *solid old citizen* who has put in all the days and nights of his life making boilers and who knows them like a mother knows her child—the wise old party who doesn't wear gloves or red neckties—who knows every minute what he's talking about—who stays right down on earth and talks boilers, not British thermal units and a lot of other fancy things which sound like dead language and are just as hard to crack.

British thermal units! Fudge! Piffle! The British never knew anything about heat units until the Americans went over there and gave them an ear full. And if some slim, spectacled boy with blond hair starts anything like this on you, tell him you want the old man who knows boilers and *nothing else*—that you want

to know the name of the best boiler on earth, not how many units there are in a bunch of coal bounded on the north by Main street and on the south by the calorimetric equivalent. Tell him that you are looking for a boiler that will heat your flat so the kids can play on the floor in the winter time without wearing rubber boots and steamer rugs, and so you won't have to go to bed while repairs are being made.

When you go to a doctor for earache, you don't study medicine—neither do you study law when you employ a lawyer to sue for a separation. Well, it's the same in boiler buying. You don't want to study a column of inane statistics as long as your arm and as knotty as your spine. You want some one who knows boilers—some one who is dead on the level, and whose word is as good as a government bond, to tell you in plain old every-day Anglo-Saxon about boilers—*boilers, boilers.*

If such a man as this doesn't direct you to the KEWANEE steel fire-box boiler and prove to you it is the best boiler on earth, *then we don't want a cent.*

We've been at this boiler-making business so long that we know what we are talking about. We know all about British thermal units, too, but we don't use them to excess. We don't deal in blunders or word pictures, or statistical drivel. We make boilers and we talk boilers, and when we're through you've got the information you're looking for. We don't put fool ratings on our boilers. We rate them at what they will actually do. We don't specify a 2,000-foot capacity for 1,000 feet of radiation—we specify a 1,000-foot capacity boiler. We don't deal in blunders. We're not guessing. We don't *write* or *say* a word about the KEWANEE boiler that isn't absolutely true. We've been making boilers for nearly forty years, and what we say goes in the boiler business. We say now without fear of contradiction that the KEWANEE steel fire-boiler is the *best boiler on earth,* and we are ready to prove it in public or in private.

There are 70 miles of fine Chicago flat buildings now heated by KEWANEE steel fire-box boilers, and the architects who constructed them and put up additional ones put the good old KEWANEE steel fire-box boilers in the new ones. *Must be something awful good about this boiler.*

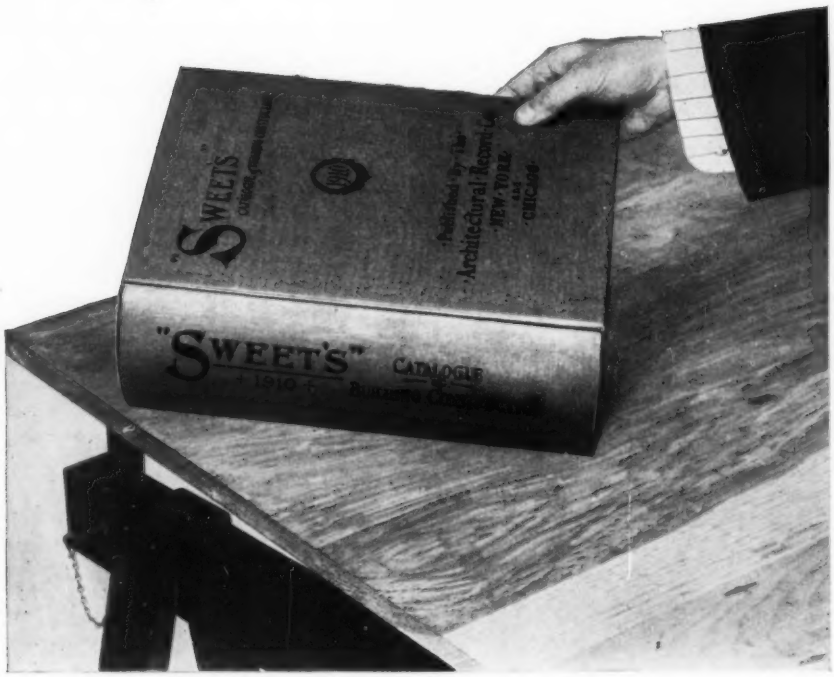
Architects will find a useful catalogue of KEWANEE products on pages 1002-1008, "Sweet's" Catalogues.

KEWANEE Boilers Will Positively Do What They Are Rated to Do—And You Can Bank Your Money on It Too

MAKERS OF
BRICK-SET STEEL FIRE BOX BOILERS—AND RADIATORS

KEWANEE, ILLINOIS

BRANCHES: CHICAGO, ST. LOUIS, KANSAS CITY



Sweet's Catalogue

showing it at work on an architect's table.

This is the place for a manufacturer to put his catalogue if he wants to sell goods.

Over $100,000,000 worth of building material was specified *directly* from Sweet's Catalogue last year.

Reserve space <u>now</u> for the next edition.

Write today for particulars

"Sweet's"

11 East Twenty-fourth Street, New York

Chicago Philadelphia Pittsburgh Boston

OFFICE BUILDINGS FOR UNITED STATES SENATORS AND REPRESENTATIVES, WASHINGTON, D. C.

All plumbing fixtures furnished by The Meyer Sniffen Company, of New York City. Vitreous China Lavatories, Urinals and Closets and Solid Porcelain Bath Tubs and Sinks manufactured by The Trenton Potteries Company, of Trenton, N. J.
Illustrations are from photographs copyrighted by Waldon Fawcett.

THE TRENTON POTTERIES COMPANY

is in a position to furnish the trade with estimates on the plumbing fixtures in any building, from the most humble cottage to the tallest skyscraper. Our enormous facilities enable us to turn out work at the shortest possible notice.

In making specifications for a building, conditions sometimes require the use of special fixtures. We maintain a designing and modeling department for the use of our customers in preparing fixtures for special installation.

Also, for specification purposes, we have prepared loose sheets of our catalogue, both large and small size. These may be inserted in a folder according to requirements, and may be secured in any quantity on application.

Remember, we are the largest manufacturers of sanitary "Ideal" Solid Porcelain and Vitreous China in the world.

The Trenton Potteries Company

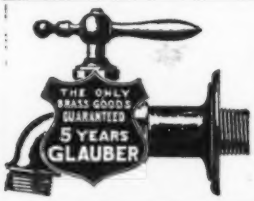
Trenton, New Jersey, U. S. A.

JENKINS BROS. VALVES

are the original and only genuine "Jenkins" valves. They are the easiest to keep tight. They are strong, well designed, carefully constructed, and nicely finished. Don't take an imitation "Jenkins"—insist on having the kind which bear the trade mark as shown in the cut.

We shall be glad to send catalog on request

JENKINS BROS., **New York, Boston, Philadelphia, Chicago**



GLAUBER BRASS MFG. CO.

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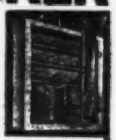
HESS MEDICINE SANITARY CABINET LOCKER

THE only modern Sanitary Steel Medicine Cabinet or Locker. Handsome beveled mirror door. Snow white, everlasting enamel, inside and out.



FOR YOUR BATHROOM

Costs less than wood and is better. Should be in every bathroom. Is dust, germ and vermin proof and easily cleaned with warm water.

Made in four styles and three sizes. Price $7.00 and up.

Send for illustrated circular.

HESS, 933 L. Tacoma Bld., Chicago

See Our Catalog in SWEET'S Pages 1205-6 and 7

Over $500,000,000 worth of BUILDING MATERIAL was purchased last year.

Did you get your share?

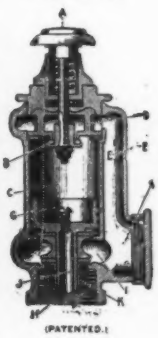
The Architects, Builders, Engineers, etc., are relying almost exclusively on SWEET'S CATALOGUE for building material information.

If you want to be indexed in the next issue, write now for particulars.

SWEET'S

11 EAST 24th ST., NEW YORK

SECTIONAL VIEW



(PATENTED.)

Crest Flush Valves

For Water Closets and Urinals

Simple in Design
Only Two Moving Parts
Substantial in Construction
Noiseless in Operation

Send for Descriptive Booklet

A. N. PASMAN

3 Foye Place, JERSEY CITY, N. J.

COMPRESSION BIBBS

A HUMBLE yet IMPORTANT part of the sanitary equipment

We make the BEST

Our "Springfield" Pattern

Our Bibbs are Fully Guaranteed

E. STEBBINS MFG. COMPANY
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"Sweet's" pages 868-869

We are Originators, Not Imitators

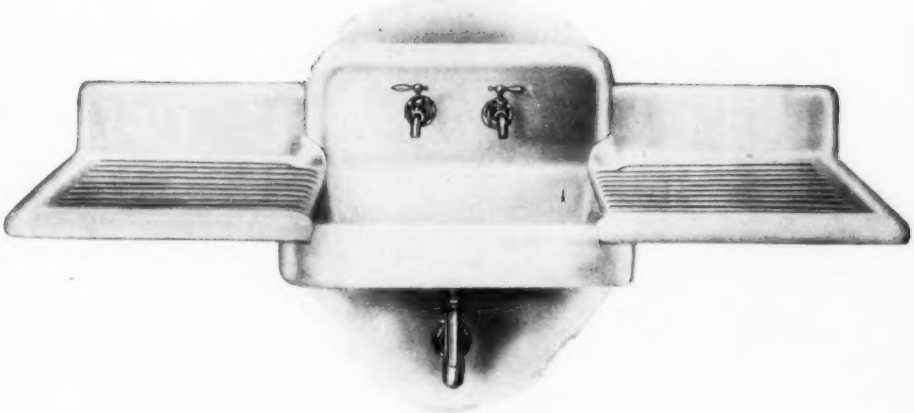

Plate F. 230 (Patented)

OTHER manufacturers are now trying to imitate our line of one-piece apron sinks and combinations, but the original "Cahill" line is still in the lead. "Beware of imitations." The cut shows our plate F-230 "Chattanooga" combination, consisting of sink with 12-inch back and 5-inch apron cast integral, and two drain boards with 8-inch back. Drain board and back cast in one piece. "Chattanooga" combinations can be furnished in four sizes. They are also made for right or left corner, and can be furnished with legs, if desired.

For further particulars see Catalog "F," a copy of which will be mailed on application.

The Cahill Iron Works

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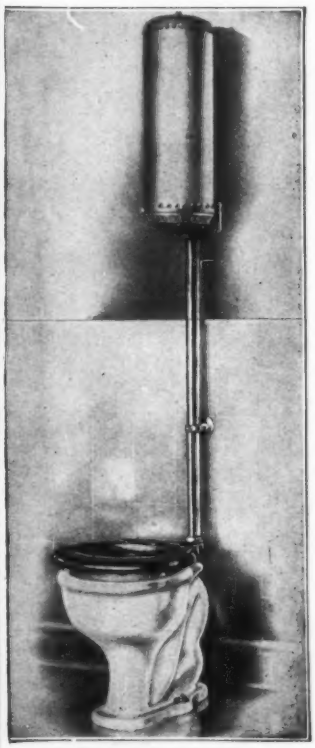
CLOW
Automatic Closets
(Madden's Patent)



Clow Cymric M-1810.
Automatic Closet with
Adamantose Bowl.

When Children Forget

Experience has shown that a closet that will flush itself is the only closet to use in schools.

Children are careless.

Clow's Automatic Closets are never careless.

They have an automatic mechanism which never fails.

And this mechanism is as simple as it is reliable. There are only three movable parts, and unless they are purposely interfered with, never get out of order.

As a Tax Reducer

Only enough water is admitted at any one time to flush the bowl.

This means a great saving in water tax; a saving of 50 per cent. over the ordinary type of closets, as shown by actual test.

How Long Will They Last?

Closets used in schools must, above all things, be durable, not only in the matter of keeping in order and doing their work, but in the matter of durability.

Clow Closets are made of Adamantose ware. This means that they are as strong as iron, cannot craze, and are non-absorbent and unstainable.

Equal care is devoted to the material and construction of the seats. They neither warp, crack nor split.

For schools, office buildings and public institutions—for every building in which automatic closets are desirable—the "Clow Automatic" is the only closet that will give entire satisfaction. Whether your equipment is large or small, you cannot afford to be without Clow Automatic Closets—the only closets that *are* automatic—the closets that save you water taxes, that do not get out of order.

Send now for our School Plumbing Booklet No. 13, which illustrates and describes our entire line.

JAMES B. CLOW & SONS

Chicago **New York** **Havana** **St. Louis** **Washington** **Philadelphia**
Kansas City **Milwaukee** **San Francisco**

The One Safe Closet for School Houses and Public Comfort Stations

Maxco 393

Enameled Iron Tank. Raised Rear Vent Bowl.

MAXCO solves the troubles of maintaining sanitary conditions in those public toilet rooms where seat action closets are necessary.

No more premature flushing, with no water available when necessary.

No waste of water and no partially flushed closets.

No flushing except from a full tank.

Specify and use Maxco seat action combinations in private bathrooms where children are in the family. The better sanitary conditions will be noticeable and appreciated.

MAXCO may be had with enameled or galvanized iron, vitreous china or wood tank, and any desired bowl. Either high or low tanks, concealed or regular.

All woodwork furnished with MAXCO combinations is made with the famous SPLITPROOF guaranteed joint.

REGISTERED U.S. PATENT OFFICE 1909
TRADE MARK **SPLIT PROOF** TRADE MARK
PATENTED MARCH 31.1908

Architects who know the expense and annoyance of replacing defective tanks, and who appreciate the danger from cracked seats, are insisting on the SPLIT-PROOF joint on all plumbers' woodwork.

Any interested architect may have the opportunity of examining the working of the Maxco seat action closet in his own office on request. Catalogue will be mailed on receipt of postal.

CLIMAX SANITARY COMPANY, Detroit, Mich.

Ask a party that knows something about Plumbing Goods what he thinks of

"Paragon Quality" Plumbing Appliances

The chances are he will say the quality of the line is unquestioned, but a little higher than other goods

Cost a little more. We know that the difference is small and well worth the extra amount asked. Besides, all "Paragon" Trimmings bear our name, which is a guarantee to every purchaser.

THE SANITARY CO., Cleveland, Ohio, U.S.A.

Exclusive Makers of "PARAGON QUALITY" Plumbing Goods

In Tub Bathing

the bather knows beforehand exactly the temperature of the water he or she is going to encounter.

In shower bathing without the Ingham Mixer the adjustment of the water temperature is always *guess work*, frequently a source of *discomfort* from the *shock* of water either too *hot* or too *cold*, and, in many instances, has resulted in serious and even fatal injury to the bather from *scalding*, particularly where the cold water is tempered by steam under high pressure, as is generally the case with shower baths in large establishments, such as club and college gymnasiums, hotels, municipal bathing houses, factories and industrial plants, etc.

The Ingham Shower Mixer

absolutely precludes any possibility of injury by scalding, even where the water is heated by high pressure steam.

It assures the desired temperature of water from the very start of the flow. It insures the thorough comfort of the bather and eliminates the possibility of shock. It saves thirty per cent. of water and fifty per cent. of steam. It is perfectly automatic, noiseless, and will not get out of order.

Ask for our book

The Imperial Brass Mfg. Co.

443 So. Jefferson Street

Chicago, Ill.

TEAR THIS OFF, SIGN AND MAIL IT

A. R. 6-1

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Send copy of your book.

Signed .....

Street No. .....

City .....

Mueller Colonial Self-Closing Bibb

(Patented)

D-12002

The Size of The Water Bill

Is not measured by the amount of water actually used, but by the amount that is used and wasted.

When Mueller Colonial Self-Closing Work is installed, the bill and the water actually used strike an approximate balance. An owner knows then that he is not paying for something from which he derives no benefit. Mueller Colonial Self-Closing Work prevents waste, and unlike other self-closing work, has no mechanical weakness to render it ineffective.

We know positively about Mueller Colonial Self-Closing Work's durability.

We've tried it out. Under a mechanical device it was opened and closed 699,000 times, water passing through each time. It was kept in continuous operation 466 hours, and showed practically no wear. Experts figure this test as equal to 20 years' service. Each cock is tested 200 pounds hydraulic pressure, stamped with the name MUELLER, and

Unconditionally Guaranteed

TRADE MARK
COLONIAL
REGISTERED

H. Mueller Mfg. Co.

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West Cerro Gordo Street

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New York, N. Y., U. S. A.
254 Canal St., cor. Lafayette

NEVER SPLIT

CLOSET SEATS

are being specified by architects all over the country.

END TO END

Every piece in a "Never Split" Closet Seat is put together end to end with the next piece, with the joint made tight with the hidden bolt.

Every architect knows that this means a perfect joint, with no chance to open even a hair line after the protecting varnish has gone.

The five year guarantee is not a risk that we have assumed —we know from experience, as you know from the theory of wood, that this guarantee might with equal safety be made for the life of the closet itself. These four pieces of end grain wood simply can't come apart at the joints.

Never Split Seat Co., Evansville, Ind.

THE superiority of the New Rambler motor is recognized because of its exclusive advantages of efficiency, simplicity and accessibility. Efficient because the Offset Crank-Shaft increases power and enables you to throttle down on high gear no faster than a man usually walks. Simple because of the one-piece crank case and direct-acting overhanging valves. Accessible because the wedge-type main bearing permits adjustment from above, while the crank case opening is at the side. The Straight-Line Drive saves power by avoiding the corner or angle in other driving systems; thirty-six inch wheels increase clearance, improve the appearance and make riding comfortable, while the Spare Wheel obviates tire trouble.

Thomas B. Jeffery & Company
Main Office and Factory, Kenosha, Wisconsin
Branches: Chicago, Milwaukee, Boston, Cleveland, San Francisco

BALL COCK GACO FLUSH VALVE

NOISELESS

CLOSET TANK VALVES.

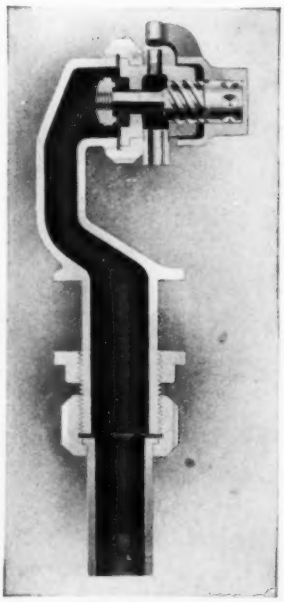
NOTICE ADVANTAGES

GACO Ball Cock

No Sucking
No Sputtering
No Hissing
No Singing
No Chattering
No Repairs

CAN BE APPLIED TO ANY STYLE OF TANK

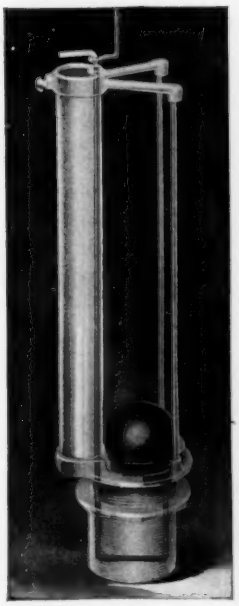
GACO Flush Valve



Fleming Patent

ARCHITECTS!

Noiseless Closet Tanks are business getters, and when specifying or ordering water closets, you will build up a business on the solid foundation of satisfied owners, by insisting on having GACO Ball Cocks and Flush Valves in the tanks.



Stewart Patent Pending

GACO VALVES ARE UNCONDITIONALLY FURNISHED WITH A WRITTEN GUARANTEE THAT PROTECTS AGAINST NOISE, LEAKS OR OTHER DEFECTS.

INTERESTING BOOKLET SENT ON REQUEST

Pittsburgh Gage & Supply Co.

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PITTSBURGH, PA.

New York Office, 91 Liberty St

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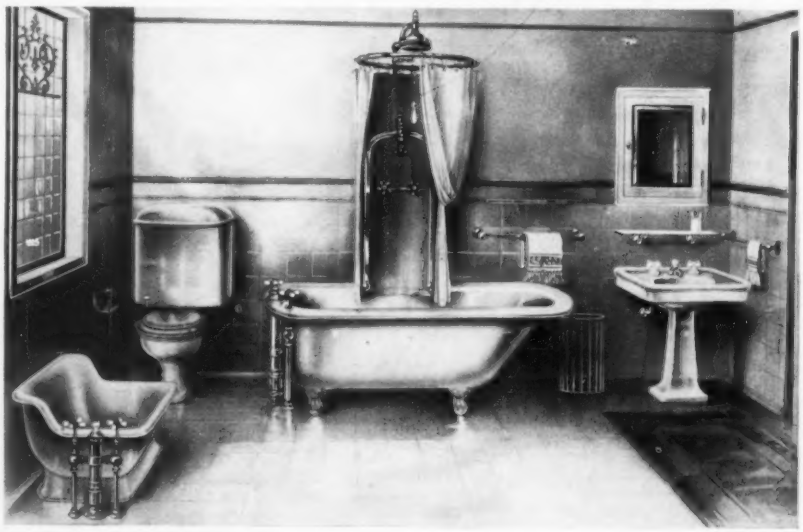
FIFTY FIVE YEARS OF QUALITY



Year after year Wolff plumbing fixtures will give perfect service with ordinary care and attention. Lasting quality under the daily effect of hard usage is obtained through over half a century of studied attention to details of construction.

Established 1855

L. Wolff Manufacturing Co.

Manufacturers of

Plumbing Goods Exclusively

The only complete line made by any one firm

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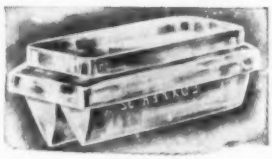

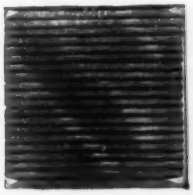

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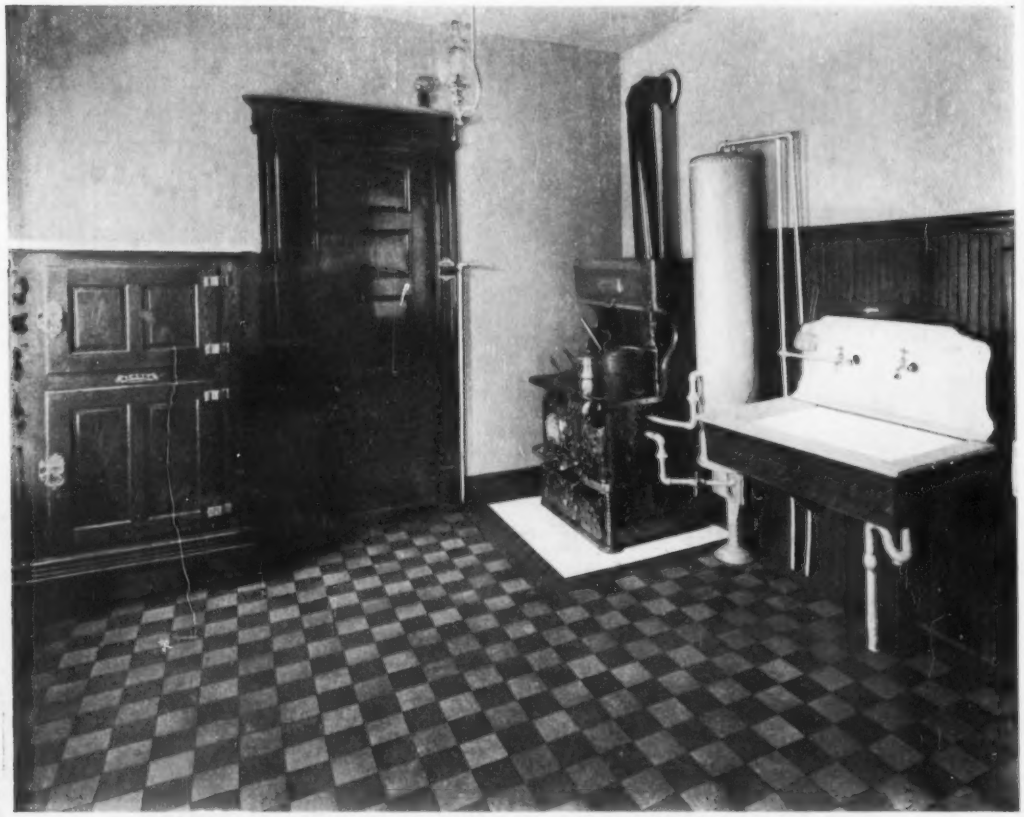

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